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ORIGINAL LECTURES.

ON PHAGOCYTES.

An Address

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THERE are in the body groups of tissues possessing cells, which either normally display amœboid changes, or are capable, under certain conditions, of assuming them. By amœboid properties we mean not only the capability of free movement, but the possession of a power which enables a cell to take foreign particles into its interior. Tissues containing such cells are derived from the mesoderm, the type of which, phylogenetically, is a free wandering cell. (Minot.) In the development of this layer epithelial and non-epithelial portions may be distinguished. For the former Minot has suggested the term mesothelium, and the latter His calls mesenchym. The distinction between the two is, however, largely artificial, as the epithelium may be, and in places is, in development changed into connective tissue. And, thirdly, there are in the mesoderm, at all stages of its development, certain cells which are free and independent—mesamœboids (Minot), and which persist subsequently as leucocytes.

These mesodermic cells in the adult body, which are capable either of free amœboid movements, or of taking up into their protoplasm solid particles of various sorts, are met with:

- (1) As the colorless corpuscles of blood and mucus.
- (2) The connective-tissue cells, free and fixed, within the connective tissue proper, or forming the supporting framework of the solid organs.
- (3) Cells of the spleen, bone, marrow, and lymph glands.
- (4) The vascular and lymphatic endothelium.
- (5) The alveolar epithelium of the lungs.

All of these cells possess, in a greater or less degree, the power of taking solid particles into their interior, virtually, as we say, of eating them.

On account of the possession of this property, Metschnikoff has suggested for these groups of cells the term *phagocytes*, as expressive of their most distinctive feature, and for the process in general the term *phagocytosis*.

He regards this function as a property handed down from the primitive unicellular organism, and traces in an interesting manner the evolution of cells possessing it throughout the animal kingdom; attempting to show a genetic relation, physiologically at least, between the free living rhizopods and the cells of the middle germinal layer of the higher animals. Not a little of the attractiveness of Metschnikoff's views is derived from the glamor of evolution thrown over them by thus attributing

the retention in certain cells of an atavic property in the highest degree useful to the organism.

I shall consider first the action of these phagocytes as normal physiological factors in the work of the body; and, secondly, take up the theory that these bodies play an essential rôle in the protection of the organism from the invasion of specific germs.

And, first, two illustrations from comparative physiology to indicate the important part assigned to phagocytes in certain transformations which animals undergo. In the development of the frog, the removal of the tail of the tadpole, and of the gills, by gradual atrophy, is effected, according to Metschnikoff, by the activity of the amœboid cells. At a time when the hind legs begin to bud, the leucocytes migrate into the tail, and by their phagocytic action remove the tissue, fragments of which, as muscle, bits of nerve fibres, etc., may be seen in the interior of their protoplasm. The gills are absorbed by an identical process. In the transformation of the larva into the fly, Kowalewsky¹ has shown that the large masses of muscle tissues, so abundant in the larva, and other parts unnecessary in the matured condition, are removed by the activity of the phagocytes.

It has long been known: that foreign bodies, such as ligatures, portions of dead bone, and other substances, may be completely removed by leucocytes. Interesting as is this, and bearing directly upon the question, I propose to limit myself entirely to the consideration of the two aspects above referred to.

Nowhere in the body do we have such a facility for studying the action of phagocytes as in the organs of respiration, in which, with the cilia of the bronchial mucosa, they share in the work of cleansing the air-passages; and of these two important agencies it is hard to say which plays the more important part in the expulsion of those particles of foreign matter which, in cities at least, we constantly inhale. There are several groups of cells engaged in this work: The ordinary mucus corpuscles; the alveolar epithelium; the connective tissue elements of the pulmonary stroma, and the leucocytes of the lymph tissue in the bronchial, tracheal, mediastinal glands.

The mucus corpuscles, which in health are derived largely from the muciparous glands, and in inflammatory states from the general bronchial mucosa, are actively concerned in attacking the dust which reaches, in ordinary inspiration, as far at least as the medium-sized tubes.

The examination of the morning sputa of a cigarette-smoker, or of a person who has been exposed to a dusty atmosphere, shows very clearly that no small proportion of the carbon grains is included within protoplasm. The free granules are abundant, but almost every leucocyte has its little load which it has picked up on its road from the finer tubes to the trachea. I have always thought this represented a neat bit of economy of labor, as there

¹ Zeitschrift für wissenschaftliche Zoologie, Bd. 45.

can be no question that it is easier for the cilia to sweep half a dozen angular particles, when enclosed in a cell, than to work at the same when free. In all probability, the finer particles which fall upon the tracheal or the bronchial membranes are gotten rid of almost entirely by cells and cilia. There does not appear to be, to any great extent, penetration of pigment granules between the ciliated epithelium. It is unusual to see beneath the tracheal mucosa any collection of carbon grains. We do meet with it in the submucous bronchial tissue, but the active vibratile lining seems to afford a tolerably sure protection. The lymph vessels open on the surface in the pseudo-stomata, and in the experimental work of Arnold¹ and others, leucocytes carrying black grains have been seen in the submucous lymph vessels; yet the process does not seem to go on to any great degree.

The particles which reach the air cells find no active current to sweep them from the spots on which they fall. It is possible to conceive, under certain conditions, of the air cells gradually filling, were it not for the activity of phagocytes, derived largely from the alveolar epithelium, which stands, as it were, at the gateway of the lymphatic circulation.

The cells lining the air cells, seen, for instance by scraping gently the cut surface of an œdematous lung, look as flattened, desiccated, and lifeless as do the scales of the scarf skin. But appearances are deceptive in this case, and the protoplasm of these cells is not only active but probably varies much in shape with the distention or contraction of the alveoli. When in contact with liquids and in pathological conditions, they change so much in form that I find it often a difficult lesson to teach students familiar with normal histology only, to recognize in the large, swollen ovoid cells so common in sputa, alveolar epithelium. Moreover, from the rapid way in which they may be desquamated, there must be ample provision for their rapid restitution. How far in a normal state these cells take part in the work of cleansing the lungs, is not yet definitely settled. In the young, they do not often appear in the sputa, except when there are indications of catarrhal changes, but, in the adult, their presence is very common. It is rare to see one in the sputa of a hospital patient, which has not brought with it a load of carbon, all of which may not have been derived from the air cells, as these bodies can undergo amœboid changes, and, like the leucocytes, are probably not above picking up a grain or two in their course toward the larynx. In cases of bronchial catarrh, and in phthisis, these pigmented cells of the alveoli may be very abundant, producing the blackish streaks which may be seen with the naked eye. When these cells have undergone the myelin degeneration they seem no longer capable of performing scavenger work.

In coal-miners, or even in stokers and coal-heavers, these pigment-laden cells may be extraordinarily abundant. It is not only when the patient comes direct from the mines, or from the coal-yards, but the old *poitrinaires* which haunt in such numbers our city hospitals, expectorate for months, or even longer, sputa containing the pigment-laden alveolar cells, staining the entire expectoration. So persistent may this be that the process may be regarded, not simply as an extrusion of the daily dole

of carbon, but as a definite excretion, if we may so use the term, of particles which have been stored up in pulmonary parenchyma.

A certain proportion of the inhaled dust particles escapes the mucus cells and the alveolar epithelium and penetrates the substance of the lung, entering at the *kittsubstanz* between the cells, or through the pseudo-stomata existing in the alveolar wall. The particles of coal-dust have such sharp angles that we may suppose them capable of mechanically lacerating the delicate alveolar cells.

In dwellers in the country, as well as in wild animals, breathing an air comparatively pure, the cilia and the phagocytes in the air-passages appear quite able to prevent access of the carbon grains to the lung tissue; whereas in the dwellers in the cities, and in animals kept in confinement, the impurities in the air are so abundant that these agents are insufficient, and sooner or later the grains penetrate the air cells, aided, no doubt by the movements of inspiration and expiration; and we have the well-known marbled or carbonized organs which we see every day upon the post-mortem table.

When the particles reach the lymph spaces, the fixed and free connective tissue cells of the stroma join actively in the work. On section we see in the alveolar septa large numbers of round protoplasmic bodies, two or three times the size of colorless blood-corpuscles, which are usually packed full of dark grains. A certain proportion is seen within the ordinary connective tissue corpuscles, and, in addition, there are, in variable numbers, ordinary leucocytes. But even these forces are insufficient to meet the constantly advancing stream of dust particles. The destiny of those which escape the phagocytes in the alveolar stroma has been accurately followed in the investigations of Arnold and others.¹ Entering the lymph stream they are carried first into the lymph nodules, which, in the lungs surround the bronchi and bloodvessels, and a large number becomes fixed in the cells of the follicular cords or are permanently embedded in the stroma.

As they pass along the lymph channels into the interlobular septa beneath the pleura, a still further number lodge, and become permanently enclosed in the stroma cells, and, finally, the remnant pass into the larger lymph channels and ultimately lodge in the bronchial and tracheal glands. Here the lymph and stroma cells of the follicular cords dispose of them permanently. That this is effected in great part by the phagocytes is, I think, unquestioned. A scraping from any moderately pigmented lymph gland shows that the chief part of its carbon load is warehoused (so to speak) in protoplasm, the granules lie for the most part imbedded free in a connective tissue matrix. Here the struggle is practically over, and though not a victory, yet the compromise which has been made is the best which could possibly be effected. The sharp irritating particles have been placed in position in which they could do the least harm, and, though not expelled, have been safely imprisoned.

Once in the lymph glands of the bronchi, it is thought they never reach the general circulation, but it has been shown of late years, that under certain circumstances the carbon particles may pass the bronchial filters and spread far and wide throughout the system. Soyka's remark-

¹ Untersuchungen über Staubinhalation und Staubmetastase. Leipzig, 1885.

¹ Vide recent work of Fleiner. Virchow's Archiv, Bd. cxlii.

able case in which undoubted coal particles were found in the tissue of the spleen and of the liver illustrates what really may occur. Weigert¹ in particular has called attention to the frequency with which in the spleen and in the liver carbonization of the connective tissue occurs. He states that it results whenever densely pigmented bronchial glands form close adhesion to the pulmonary veins, through the walls of which the carbon particles pass and so reach the general circulation. I would not call the condition common, but I have seen at least three instances at the Philadelphia Hospital in which the irregularly distributed pigment in the spleen and in the liver (in the latter chiefly along the portal canals) was undoubtedly of extraneous, not of hæmic origin.

The steps in this process described may be followed in the lungs of any town dweller, but to see in perfection the remarkable activity of the pulmonary phagocytes, one must study the early stages of anthracosis, particularly in those exceptional cases which we see occasionally when a miner has been killed by accident or dies of acute disease. It is not, I think, too much to say that the larger part of the pigment contained in lungs almost, if not quite, black, is enclosed in protoplasmic cells. Here too the invading particles are more formidable and not so readily dealt with; yet one frequently finds long irregular bits completely encircled by a film of protoplasm which the phagocyte has stretched to the utmost, just as we may see an amoeba extend along the whole length of one of the short rod-like diatoms.

I know of nothing which illustrates better the remarkable amoeboid properties of human protoplasm than a slide prepared from the scraping of such a lung, or of the black juice pressed therefrom. Scarcely a leucocyte can be seen which has not been at work, and many of the larger cells have the protoplasm stuffed to the full with carbon grains. Only in the work of the pond amoebæ preying amongst desmids, diatoms, and algae can we see such better illustrations of active work. There is, of course, this difference, that the amoeba eats to live, and so far as I know never loads its protoplasm with useless stuff. The body phagocytes take anything, never exercising selective powers. The particles which gain entrance to the lungs may be far too large for a single phagocyte to attack successfully. I have sketches showing rod-like particles, the ends of which appear enclosed in protoplasm of a dumb-bell shape; while in one instance not only were the ends enclosed, but the central portion was completely enveloped by the third leucocyte.

A physiological process in which phagocytes play a leading rôle, is the removal and disintegration of the red blood-corpuscles which have lived their life and are no longer fit for work. The cells containing the red blood-corpuscles, which are found in the bone marrow and in the spleen, however much opinion may differ as to their mode of origin, cannot, I think, be regarded in any other light than as phagocytic elements with this definite function. They exist normally in the red marrow, and in the spleen, and we may recognize (1) cells which appear to be, from their size and shape, elements of the pulp and (2) cells which belong to, or are derived from the endothelium of the capillaries, and (3) the cells of the stroma. The gradual production of the pigment

in this way has been so often described, and is so well known that I need not now dwell upon it. In certain morbid conditions we see this process widely extended, and we find cells containing red blood-corpuscles in the liver, in the lymph-glands, even in the blood itself; and particularly is this the case in those states associated with rapid blood deterioration and destruction, as in acute fevers, when these bodies may be enormously increased. In certain forms of anæmia so abundant are they in the bone marrow and in the spleen that they have been regarded as directly concerned in the widespread hæmophthisis.

The observations of Quincke¹ and his pupils have shown that the liver is the chief seat of blood destruction in pernicious anæmia, but the totally different appearance presented by this organ, even in long-standing cases, to that met with in malaria, shows a radical difference in the nature, possibly in the seat of the hæmolytic action. In the former case, the pigment is chiefly in the liver cells; in the latter, in the stroma and about the blood-vessels. We cannot from this regard pernicious anæmia as an hepatic disorder. The liver, probably, makes the best disposal it can of an abnormally large amount of coloring matter, which is, I should suppose, not brought to it in the same form as in malaria, but rather in a form similar to the raw material of the bile pigment, which would account for the active participation of the liver cells. The deep beefy-red color of the muscles in pernicious anæmia also tells of an abnormally large quantity of coloring matter at the disposal of the tissues.

In chronic emphysema, in mitral obstruction, and in all affections in which the circulation within the lungs is permanently embarrassed, the condition of brown induration which ensues affords a very beautiful illustration of the same process. The blood corpuscles by diapedesis reach the stroma of the air cells, where they are seized upon, just as are coal particles, by the connective-tissue cells, and are gradually converted into a pigment which retains for a long time its brownish tint, but which may ultimately become black.

Neumann, in a recent paper,² doubts whether the brown induration of the lungs is really the result of the ingestion of the red blood-corpuscles by the stroma cells. He holds that in many instances, at least, structures within the corpuscles, which resemble so closely the red blood-disks, are in reality only pigment forms having the size and color of the red blood-cells. We certainly see structures within the cells which cannot possibly be mistaken for anything but red blood-corpuscles, and, I think, the expert eye can usually discriminate between such and the round aggregations of pigment, however deceptive may be their form and color.

Phagocytosis has been studied in the process associated with absorption of extravasated blood. Langhans was the first to show that blood effused into the tissue did not simply disintegrate and disappear, but that the connective tissue elements were actively at work, and that no small proportion of the colored corpuscles was ultimately taken into the interior of their protoplasm. This has been amply confirmed, and I think there can be no question as to the fact; but observers are by no means unanimous, however, whether the phagocytes are essen-

¹ Fortschritte der Medicin, Bd. i.

¹ Deutsches Archiv f. klin. Med., Bds. xxv., xxvii., xxxii., xxxiii.

² Virchow's Archiv, Bd. 110.

tial in the process. Probably in large extravasations only the peripheral parts are dealt with in this way. The fixed connective-tissue cells with migrated leucocytes all share, I believe, in the process. It must not be forgotten, as Neumann has pointed out, that pigment granules in the interior of the cells may resemble blood corpuscles very closely. However this may be, there can be no doubt that the cells are concerned in the transformation of the hæmoglobin, whether they take it up with the corpuscles or after it is diffused from them.

Remarkable differences exist in the final transformation of the hæmoglobin, resulting in the formation of two pigments, hæmatoidin, which develops chiefly in the central parts of the extravasation, and an albuminate of iron, hæmosiderin (Neumann), which is formed at the boundaries of the clot and wherever the coloring matter comes in contact with the tissues. That this difference is related in some way to the influence of the cells, is in the highest degree probable, though Neumann is not inclined, from his observations, to attribute an important action in this respect to either the fixed or wandering connective tissue elements. The question is one to which a few years ago I gave some study in connection with development of cells containing red blood-corpuscles, and I was much impressed with the truth of Langhans' statement as to the frequency and numbers of these structures in the vicinity of extravasations of all kinds.

In the intestinal canal the leucocytes assist, to some extent at least, in the absorption of fat. Schaefer's observations upon this point¹ show very clearly that during digestion the amœboid cells of the mucous coat become filled with fat globules. How these are obtained we do not as yet know clearly. Whether the fat penetrates between the epithelial cells, or whether the leucocytes pass up between the cells reaching to the surface and here secure the fat, has not been definitely determined; though from the presence of an occasional cell, or even a nest of cells between the cylinders, the latter view is probably the correct one. The leucocytes pass to the central lymph vessels, where they disintegrate, and discharge their load of fat granules which has, meanwhile, in the protoplasm of the cell, been broken up into finer particles, which form the so-called molecular base of the chyle. Possibly, too, the leucocytes may take up other ingredients. It is interesting to note that in many of the lower animals the amœboid cells of the endoderm possess an active digestive function. The observations of Parker and Lankester appear to confirm fully the researches of Metschnikoff on the phenomena of intercellular digestion in invertebrates.

So far, we have been dealing exclusively with the action of phagocytes under normal conditions. And it is clear that these mesodermic cells have important functions throughout the life-history of the organism. Not only in the early steps in the development of the blastoderm do we see them actively at work, but in various stages of development, particularly in that of the bone, their action is of the first importance. In the mature body we have seen that in the lungs, in the intestines, and in the blood-making organs, the phagocytes have most essential functions; but the question of chief interest

to-day relates, not so much to this normal process about which there has never been much doubt, as to the supposed part which these cells take in protecting the body against the invasion of parasites.

(To be concluded.)

ORIGINAL ARTICLES.

ACUTE MANIA AND MELANCHOLIA AS SEQUELÆ OF GYNECOLOGICAL OPERATIONS.¹

BY T. GAILLARD THOMAS, M.D.

THE object of this paper is to place on record what I think must be a rather remarkable experience as to the occurrence of acute mania and melancholia as sequelæ of gynecological operations.

Before proceeding with my subject, I desire to call attention to the fact that I do not announce these peculiar and alarming states as complications, or necessarily as results, of operative procedure, but merely as sequels which may or may not be dependent upon it. Further, in this connection I would disclaim the position that the operations performed for the relief of diseases peculiar to women are especially liable to such sequences; but all the surgery which I do being of this character, I am forced, as I limit myself to my personal experience, to confine myself to this field.

Let me clearly and distinctly define my idea of the conditions entitled acute mania and acute melancholia. The former is a sudden, decided, and violent aberration of the intellect, usually following a preëxisting melancholia of slight character, and marked by mental exaltation, violent and frequent ebullitions of emotional nature, rapid and irregular muscular efforts, and which is usually unattended by a tendency to inflict injury upon the patient herself or her attendants. The eyes are bright and piercing in their glance; the tongue red at the edges and furred at the centre; the pulse rapid, and the temperature somewhat, though, in the early stages of the affection, not much elevated. The patient speaks with a sharp, metallic, unsympathetic voice, pitched high, and talks rapidly and incoherently.

Acute melancholia is a rapidly developed aberration of the intellect, marked by depression of the mind instead of exaltation. The patient is less excited and less turbulent; sadder, quieter, and more depressed in her bearing. She looks gloomy, and often declares that her death will certainly occur very soon. At times she becomes calm; at others she weeps and bemoans the fact that she is pursued by a Nemesis, in consequence of some crime which she has either committed, or of which she is falsely accused.

I shall relate to-night six illustrative cases. Out

¹ Monthly International Journal of Anatomy and Physiology, 1885.

¹ Read before the New York Academy of Medicine, April 4, 1885.

of these, four were violent, and showed great mental exaltation throughout; two were melancholic in their development, but they were acutely, violently melancholic, bustled about wringing their hands in their busy distress, and after a short illness they died, as did two of the four who presented symptoms of pure exaltation.

CASE I.—Mary M., aged twenty-one, single, by occupation a cook, had, during the year before I saw her, noticed an abdominal enlargement which had steadily and rapidly increased. During this time she had emaciated very rapidly, was at the time that she came under my care extremely weak and low-spirited, and now felt that, unless relieved very soon, she would die from exhaustion. Physical exploration revealed a large accumulation of fluid in the peritoneum, and, in addition, a round tumor occupying the whole of the left side of the abdomen.

Although the case was not looked upon as a favorable one for operation, it was determined that, since extirpation of the tumor offered the only chance for the saving of life, it should be resorted to. Accordingly I undertook the operation. The patient rallied well after it. She was kept upon beef tea, milk, and gruels, and quieted by the administration of opium. Her pulse kept up to about 100, respiration was normal, and nothing existed to excite alarm, except the extreme nervous depression of the patient. She asserted that she would certainly die, and really seemed convinced that such would be the case. With the exception of this symptom, she appeared to be progressing favorably until the seventh night. Then she seemed more than usually nervous and excitable, and desired to see the priest, who was accordingly sent for.

On visiting her early on the morning of the eighth day, I found that a great change had come over her during the night. Her eyes were wild and haggard, her face maniacal, her tongue red and dry, and she constantly talked in an incoherent and violent manner, as is so often found to be the case in puerperal mania. As I entered the room she covered her face with the bedclothes, and screamed out that I had leagued with the priest to murder her. Nothing would pacify her, or dissuade her from this view. After soothing her for some time, I succeeded in getting near enough to her to find that the pulse was beating at 160 to the minute. She remained in the maniacal state which I have described till evening, when she sank into coma and died. No post-mortem could be obtained.

At the time of this patient's death, now exactly twenty years ago, I regarded the condition which destroyed her life as one of acute septicæmia, a pathological factor which was only then coming into notice, and one of which we knew almost nothing. That I was in error, I am now convinced by long and melancholy familiarity with septicæmia, and my conviction will, I think, be shared by all in this assembly.

This case was by far the most rapid that I have

ever met with. Its acute stage could not have lasted more than thirty-six or forty hours. Its prodromic, or melancholic, stage had existed ever since the operation. It was in all probability that mental state which made the patient constantly persist in the asseveration that her death was certain.

An examination of the membranes of the brain would have been most interesting in this case, but the patient's family, who were very ignorant people, would not yield to any solicitations in reference to the matter.

CASE II.—Mrs. X., a wealthy and fashionable lady, came under my care on account of very severe suffering at her menstrual periods. She was thirty-five years of age, the mother of four children, and a stout, well-made, and very handsome woman. Her health was perfectly good except in this respect; as her menstrual periods approached—that is, about five or six days before them—she would begin to suffer such intolerable neuralgic pain in the regions of the ovaries that her life was rendered wretched. She was seen with me in consultation by two of the most eminent general practitioners of this city, and sustained by their concurrence, and encouraged by the wishes of her family, I removed the ovaries.

She recovered rapidly, but at the end of three weeks a low grade of melancholia developed, which soon took on the form of violent acute mania, marked by tendency to strike her attendants. So violent did she become that I removed her to one of the best lunatic asylums near this city. Here she remained for four or five months, entirely insane. Then she recovered and returned home, and although six or eight years have now elapsed she is perfectly well; free, of course, from menstrual troubles, and the ornament and stay of a charming family circle. I have seen her within the past month, and no one would suspect that the well-poised and quiet woman of to-day was ever a lunatic in the wards of an asylum for the insane.

CASE III.—A Jewess, multipara, aged thirty-five years, entered my service in the Woman's Hospital and was submitted to the operation of perineorrhaphy. There was nothing peculiar in this operation as to severity, or any other feature, and after it she did perfectly well until the ninth day, when the sutures were removed. At that time she became violently maniacal, talking constantly, jumping out of bed, throwing her arms about, and berating her attendants in strong, though not absolutely improper, language. It proved so utterly impossible to control her that a straight jacket had to be applied. The patient raved violently for four days, and then fell into a comatose condition and died.

CASE IV.—Mrs. R., a multipara, forty-two years of age, who had for years suffered from retroflexion of the uterus which was marked by profuse menstruation, came to me from Liverpool, England, for the repair of a badly lacerated cervix uteri. The operation was performed at my private hospital, and presented no peculiar features. Five or six days after this Dr. Chambers, my associate in the hospital, told me that the patient's manner struck him

as very peculiar, and asked me to observe it closely. But I could detect nothing until some time after removal of the sutures, which took place on the ninth day. Then she told me that in a few days she wanted to have a private conversation with me about a terrible crime which she had committed some years ago, and the memory of which had ever since produced the greatest remorse in her mind. Two weeks after operation the patient went to the home of some of her friends in this city, rather odd in her manner and inclined to allude to the mysterious circumstance of which I have just made mention, but still sane in the general acceptance of the term.

After remaining away for two weeks, she returned to my hospital, suffering from acute melancholia. She was constantly depressed on account of remorse for a supposed crime; would sit silent for hours; then get up and pace the room slowly and solemnly, wringing her hands, weeping, and bemoaning her sad lot. She continued in this state, gradually growing weaker, for ten days, when she became comatose and died. Uncontrollable insomnia was one of the most marked features of the case.

CASE V.—Mrs. C., a multipara, sixty-five years old, was submitted by me in my private hospital to amputation of the breast. Even before operation she seemed to be a flighty and eccentric person, but after it all her symptoms were intensified. On the ninth day the sutures were removed, and from this date the patient became greatly depressed, was sure that she could not recover, and wept almost constantly. She suffered during the earlier part of her illness from insomnia, and continued to do so until the symptoms of coma began to show themselves. As the state of acute melancholia advanced she would cry bitterly by the hour, refusing to speak, and even to answer questions by nodding the head. She refused all nourishment, and for a time was sustained entirely by rectal alimentation. Feeding by the stomach pump was thought of, but rejected, because in the patient's weak condition the overcoming of the resistance necessary for passing a tube down the œsophagus would have produced a dangerous result. This patient lived for about two weeks after the breaking out of the attack, and then slowly passed into coma, and died. Toward the close of the case the urine became albuminous, and presented hyaline casts, but not earlier.

CASE VI.—Mrs. M., a widow over sixty years of age, who had in early life borne several children, entered my private hospital to have a cancerous breast removed. Even before the operation, her manner struck both Dr. Chambers and myself as being queer, but the thought that she suffered from any real mental aberration was far from our minds. About a week after the operation she began to grow noisy and irritable, and by the ninth day, when the sutures were removed, she was at times, during the night chiefly, absolutely maniacal. Then periods of perfect calm and lucidity of intellect would occur and last for hours.

At the end of three weeks from the time of operation, partly in consequence of her earnest desire, partly because we thought that a change of scene and

surrounding would benefit her, she was allowed to return home. Here, in a few days, violent mania developed, and at the time of the present writing the patient is still insane.

What her exact condition now is I cannot say, for I have to rely merely upon non-professional reports.

There is very little literature extant upon this subject, which until very recently has appeared to attract no attention. For obtaining what little there is I am indebted to two of my friends, Dr. Paul F. Mundé and Dr. Andrew J. McCosh, who have kindly looked it up for me. Prior to the year 1887 there is nothing. During that year Dr. Edward J. Ill, of Newark, N. J., published a very interesting little pamphlet, embodying his own experience and that of some of our German colleagues, entitled "Acute Psychoses following Gynecological Operations."

Dr. Ill collected the records of ten cases, in which acute mental aberration followed gynecological operations. Of these, three occurred in his own practice; one, a case of acute mania, and another, a case of melancholia, followed ovariectomy; and the third, a case of melancholia, resulted from the performance of a minor operation upon the bladder. All recovered.

Reports of the seven cases which follow were all drawn forth by the discussion excited by a paper read by Graube before the Berlin Gynecological Society in 1887. One case reported by Graube occurred after perineorrhaphy, performed by Paul Ruge, and is entitled by the reporter a case of hypochondriasis. The second case was reported by Duerelius as following amputation of the cervix. Czempin reported five cases of acute insanity which occurred at Dr. A. Martin's hospital. Of these, two followed excision of the rectum for carcinoma; one an operation for prolapse of the uterus; one an excision of hemorrhoids, and one followed ovariectomy, which ended fatally on the tenth day, the mania being the cause of death.

In the same year Guanck reported a case of severe melancholia following simple perineorrhaphy.

In 1888 Werth, of Kiel, read a paper on this subject before the German Gynecological Society at Halle, in which he stated that in three hundred operations on the female genital tract he had in six instances observed psychical disturbances, due to the operation. In two cases the operation was total extirpation of the uterus; in two removal of the ovaries, and in two ovariectomy. One patient was violently excited before the operation. In five cases the mental disturbance took the form of melancholia and in one of mania. In one case the psychosis appeared five days after the operation; in one eight days after; in one two weeks after; in another three weeks after, and in the two remaining cases it developed after the patients had been discharged. Of

the six cases three recovered; one after fifteen days, one after four months, and one after eight months. In two of the remaining cases there was no improvement, and the third patient committed suicide three months and a half after the operation. The phenomenon could not be referred to iodoform poisoning, as the drug was used sparingly or not at all.

Sänger, in discussing this paper, said that he recalled several cases in which cerebral symptoms had developed after gynecological operations. In two instances these were clearly referable to iodoform, though little was used on the dressings. In spite of the facts stated, however, he believed that patients with pelvic troubles having a tendency to psychoses should be treated in the same manner as other women.

In an article by Fillebrown, of Hamburg, published in the *American Journal of Obstetrics* for January, 1889, the author mentions three cases of mental disturbance following gynecological operations, observed by Prochowick, of that place. In one case there was removal of the uterus; in one, cystocele and perineorrhaphy, with amputation of the cervix; and in the third, ovariectomy. In one case intense melancholia came on in four months after operation, and when the report was made, nearly three years after, although the patient had improved very decidedly, there were still periods when she showed signs of excitement. In the second case melancholia appeared three months after operation, and one year after, at the time of his writing, the patient still had attacks at intervals, though she was improving steadily. In the third case violent mania developed three months after operation, from which the patient entirely recovered.

In four out of my six cases there was evidence of eccentricity even before operation; and in two of these four cases it was quite marked at times. In all my cases except one there were distinct prodromic symptoms following operation and antedating by some days the formal outburst.

In none of my cases could I discover evidences of hereditary tendency to insanity.

Out of my six cases, four died, one completely recovered, and one case is still in progress.

In all my cases except one the renal secretion was carefully watched and examined; and in none did the kidneys appear to be factors in the mental state.

In four out of my six cases not a particle of iodoform was used at any time; so these are out of consideration in reference to iodoform poisoning as a factor. In the two remaining cases iodoform was used, as I always use it, very cautiously and entirely on the line of cutaneous union, where absorption would have been next to impossible.

Should the suspicion enter the mind of anyone that one or more of my violently maniacal cases may have been instances of sudden and severe septicæmia

marked by delirium, I can merely point to my very large experience with septicæmia in its various forms, and reply that I feel very confident that the suspicion is unfounded.

It will be seen that, my cases being added to those recorded by others, twenty-six instances of acute mental aberration following upon the performance of gynecological operations are now placed upon record.

Before concluding, permit me to propound to this learned body certain questions which in this connection have suggested themselves to my own mind.

1st. Were these twenty-six cases of mania and melancholia really due to the operations which immediately antedated them, or did they follow as mere coincident states, *post hoc sed non propter hoc*?

2d. Any great mental strain may be followed by mania. Is it at all remarkable that in the vast number of gynecological operations which have been performed during the last quarter of a century in America and Germany, twenty-six cases of this malady should have occurred?

3d. If the mania which followed operative procedures in these twenty-six cases was a consequence of them, how in the future is a tendency to the accident to be avoided?

4th. Are the operations of gynecology any more likely than other surgical procedures to disturb the condition of the mind?

It has been said that an ignorant man may ask in a moment questions which a philosopher cannot answer in an age. In the present connection I willingly assume the former of these positions. May there be those present to-night who feel prepared to assume the latter, and may their efforts belie the aphorism which I have just quoted.

AN IMPROVED FORM OF SUSPENSION IN THE TREATMENT OF ATAXIA, ETC.

BY S. WEIR MITCHELL, M.D.,

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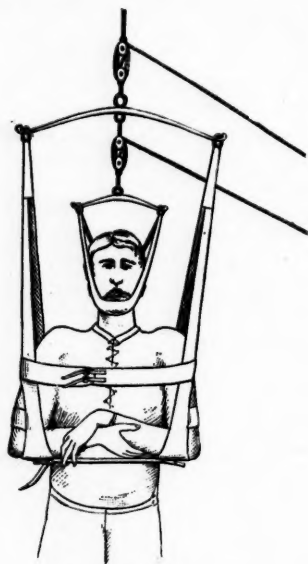
SUSPENSION in various ways has been so much used in the Infirmary for Nervous Diseases that the novel treatment of ataxia by it has created with us little surprise. A large number of patients are at present using this means, and before long I shall report results; they are so far encouraging.

It has seemed to me, however, that suspension by the armpits is but a stupid plan; for most people it is so painful as to cause the real limit to the time of suspension, which otherwise might be experimentally prolonged.

In watching the application of the Russian apparatus, I recalled the ease with which a child may be lifted from the elbows. Out of this thought came the apparatus figured. It has these advantages: It

bruises no nerves; does not arrest the circulation; is painless, and can be borne a long time, if we need to use it long, and so makes it possible to learn the value of more prolonged suspension. It will be seen that a separate pulley and cord govern the amount of pull on the head. The lift is made from the elbows, and then the head is drawn upon as may be required.

The apparatus is simply two leather slings for the elbows; a band confines the arms to the waist. (See illustration.) The relative comfort of this means of suspension is really remarkable.



By the use of this device we have been able to suspend a person over twenty minutes in perfect ease. To distribute the pressure upon the arms and trunk the vertical straps are widened under each elbow to about four or five inches and reinforced with leather. Sweeping round from the front to the back upright is a wide band which comes against the outer aspect of the upper arm, yet leaving the point of the elbow free from contact. From one elbow leather to the other and securely riveted to each, both across the front and back, pass stout straps adjusted each by a buckle. Again, across the upper part of the chest another strap encircling the trunk gives additional support—not very essential, but well for nervous folk who fear they may fall.

The adjustment of the head was a vexatious problem, but we have solved that now to our satisfaction by one of two ways. By the second pulley, described above, or by a simple mechanism thus: To the ring of each cheek-piece is attached a stout cord which passes over a hook dependent from the large metal cross-bar and thence by a strap inserted in a buckle

made fast to the rear elbow leather one on each side. These hooks are about fourteen inches apart. With either of these mechanisms we can raise a patient from the ground by his elbows, and then proceed to adjust the amount of pull needed for his head.

LOBULAR EMBOLIC PNEUMONIA.¹

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EMBOLIC pneumonia, though recognized and described by Laennec² in the early part of this century, was not understood by him. It was then classed as "pulmonary apoplexy." But the earlier experimental researches of Virchow³ continued by Cohnheim⁴ and Litten,⁵ and pathologists of even later date have portrayed this subject in a clear and satisfactory manner.

It is proper to state, at this point, that embolism of the lung, as here related to pneumonia, is a matter quite distinct from the so-called pulmonary embolism or its ally cardiac thrombosis. They are associated in our mind with occlusion of the whole pulmonary artery or its larger branches, and the attacks are very acute. Embolic pneumonia is an insidious affection, subacute or chronic in its course; manifesting comparatively few symptoms, and therefore deserving to be classed among the *latent* pneumonias.

In examining a lung that has been the seat of embolic pneumonia, we detect at a glance that it contains one or more nodules of spherical, conical, or pyramidal shape. They have a more or less firm or resistant feel and stand out prominently from the adjacent lung tissue, and vary in color from a dull red to a gray or grayish-yellow; these several tints representing the successive stages of pneumonia, and corresponding in a chronological sense with the stages of engorgement, red and gray hepatization, and resolution or suppuration; such as are characteristic of all true parenchymatous pneumonias. Besides, there is seen roundabout each of these areas a zone of oedema, in which the bloodvessels are more or less filled with stagnating or slowly moving blood, while the alveoli and interstitial tissues are permeated with bloody serum, together with the altered solid constituents of these several parts. Now, though this process may be called lobular, since it is confined to single lobules or groups of them, it differs both from broncho-pneumonia whether in the immature or mature lung, in that the origin of the disease may be traced to the arterial supply, and not

¹ Read at the meeting of the New York State Medical Society, February 6, 1889.

² Laennec, *Diseases of the Chest*, p. 188. New York, 1830.

³ Virchow, *Cellular Pathology*, p. 204. London, 1860.

⁴ Cohnheim, *Vorles. u. Alg. Path.*, i. p. 134.

⁵ Litten, *Untersuch. über den haem. infarct.*, Berlin, 1879; Zeigler.

to the bronchial tubes. And, in fact, embolic pneumonia often exhibits the characteristic hemorrhagic infarction, due primarily to plugging of an arterial branch. For in the human lung infarctions from emboli are produced with comparative ease, as we shall presently see.

Indeed, it may be stated that pulmonary infarction from embolism is the rule, in certain forms of cardio-vascular disease and in pyæmia; while the exceptions can be explained in a simple manner. In other words, clots in the veins or in the heart, or any form of endocardial inflammation, and pyæmia, tend directly to embolism of the smaller pulmonary arteries, and hence to infarction and pneumonia; for pneumonia is the natural and regular sequence of pulmonary infarction (from the lodgement of an embolus), even though clinical signs do not betray the inflammation to us.

Since then, such pneumonias are both lobular and embolic it is eminently proper that their characteristics should appear in the nomenclature of pneumonia, and the term *lobular embolic pneumonia* has a claim to recognition.

And further, it may be said of embolic pneumonia, as of broncho-pneumonia, that it can never become lobar unless by a union of the areas of lobular consolidation. I have never seen such an occurrence and am inclined to question whether it ever has been seen. The nearest approach to lobar implication I ever saw was in a case of so-called malignant endocarditis where a portion of the right middle lobe was the seat of an abscess $3 \times 1\frac{1}{2}$ inches in diameter. Suppuration in this case was, of course, a sequel to the pneumonia, rather than an integral part of the disease proper.

Now though it is proper to admit here, that the pneumonia called embolic can exist without the presence of an embolus that can be demonstrated at a post-mortem examination, and, on the other hand, that embolism can occur without infarction, still I am prepared to maintain that embolism is competent to produce (as I have already said), each and every example of the disease here designated.

To demonstrate the views of those who recognize embolic pneumonia as a separate form of lung inflammation, it will be necessary to refer to certain antecedent pathological conditions governing embolism. The first to be considered is *thrombosis*, which may be briefly described as the clotting of blood anywhere within the blood-vascular system, whether in veins, arteries, capillaries, or in the heart itself. On the other hand, *embolism* means the plugging of a vessel anywhere, by means of a solid body driven into it. Embolism occurs within the arterial or portal systems, where the current flows with such rapidity that it can force a solid body into a branch or twig and hold it there impacted. The obstructing body is the *embolus* or *plug*. In throm-

bosis the clot is called a *thrombus*. But a clot or thrombus may be carried to the heart by the venous current and then enter the arterial. The moment it lodges, so as to plug the vessel, it becomes an embolus. Hence, thrombi originating within the domain of the portal system will become emboli so soon as they have been carried by the portal blood to the viscera it supplies, and have effected a lodgement. But a further consideration of this subject is apart from the matter in hand.

We first need to know the causes of blood-coagulation (thrombosis), and without going into wearisome physiological details it is sufficient, for the purposes of this paper, that we recognize its chief determining causes. In so doing we must accept the dicta of physiologists, who tell us that it is chiefly due to the contact of white corpuscles with abnormal vascular tissue. This explanation is suited best to explain coagulation in the moving currents of blood; and has been definitely established by microscopic research.

But coagulation will also occur in any vessel, whether sound or unsound, if only the blood current be arrested. In this latter instance the red thrombus is formed, and from the blood as a whole; in the former instance, the white or mixed thrombus is developed, the one being constituted almost wholly of white blood-corpuscles; the latter from the white with an occasional (often accidental) admixture of the red. These last-mentioned thrombi, the white and the mixed, are slowly but regularly converted into fibrinoid masses, by the alteration of their protoplasmic contents.

Hence, it is apparent that thrombi are chiefly due to alteration in the walls of vessels, or to stagnation of their contents; but as the blood is seldom at rest, and then only for a very brief period, and in comparatively few morbid conditions, while injury or disease of vessels is a matter that is liable to occur frequently during the life of any individual, it follows that the white or mixed thrombi are the most common sorts of thrombi that are to be met with. When red thrombi are formed, it is chiefly in the larger veins, generally of the lower extremities; or in the chambers of the heart.

In the first instance, they find a favorite place for formation behind the valves of the veins, and growing by successive accessions of solid matter from the blood, they extend upward until another valve is reached, where they remain until the vessel is dilated to its utmost capacity, and again extend upward to still another valve. In this way the veins become "corded," the nodular expansions (that can be felt through the skin) indicating the situations of the valves.

Or red thrombi may occur within the heart cavities, whether ventricular or auricular. Their formation presupposes a dilated heart. Now it is the right heart

that is most subject to this affection, caused chiefly, in my experience, by mitral disease. Owing to its weakened action, clots form in and about the columnæ carneæ, or in the crypts of the dilated right auricle. But thrombi may also be formed in any cavity of the heart. Often they form about or on points of endocardial disease, and so at the cardiac valves, or on ulcerated chordæ tendineæ.

These two factors of coagulation may, however, be associated, as after parturition, where clots in the uterine sinuses may be due both to an enfeebled circulation and to the mechanical laceration of veins following the detachment of the placenta.

The separation of clots in such cases may be extensive, and the thrombi may gradually work their way to the heart, probably obtaining accessions as they proceed; and then passing through the heart, lodge in the main trunk of the pulmonary artery, or in one of its important branches. These accidents (as they may be called) are of an acute and very dangerous character, causing sudden death; or, at any rate, symptoms of violent angina. But a consideration of them does not form a part of the purpose of this paper. We have to do merely, as I have already said, with such smaller thrombi as occlude arteries of moderate calibre, leading to subacute or chronic pneumonias.

Again, it not infrequently happens that a morbid growth impinges on the lumen of a vein or artery, and either the progress of the disease or some mechanical injury causes the separation of a fragment that thus enters the venous current and is carried to the right side of the heart. In a case of carcinoma of the rectum that came under my observation in hospital experience, I think it not unlikely that a portion of the diseased mass was dislodged by the operation of mechanically divulsing the strictured part.¹ Pulmonary embolism with pneumonia followed, due very probably to the entrance of a carcinomatous nodule into the upward blood-stream.

It is not so easy to understand how embolic pneumonia may be produced by solid particles carried from the left heart or arch of the aorta. But there is no reason to suppose that the disease *may not* so originate, though the chances of lung implication are comparatively small; because the possible area for the origin of the disease is so limited, and because the solid particles must be comparatively minute. For in this case the bronchial arteries have to carry the disease.

They, however, are distributed to the septa of the lung, and, so far as we know, are not terminal arteries; but it is manifest that embolism can occur in them as well as in branches of the pulmonary artery, though there is no reason that it should be followed by a hemorrhagic infarction.

With this brief setting forth of thrombosis and its supposed causes, in the light of modern physiological research, we are prepared to consider embolism in its most important particulars and sequences.

I may premise, by saying that embolism is often, or usually, a trivial matter; that is, in so far as relates to the system at large, because in most organs of the body a collateral circulation is soon and satisfactorily established; the only damage resulting being that the lumen of the vessel between the lodgement of the embolus and the next distal branch is obliterated; provided, of course, the plugging be complete and the plug suffer no disintegration.

But embolism takes on a different aspect so soon as it occurs in an organ provided only or chiefly with *terminal vessels*. Now, as these are the main source of supply in the brain, lungs, and kidneys, it is there that we find typical examples of embolism with infarction. In accepting the conclusions of Cohnheim and Litten on the production of an infarction, the subject is rendered intelligible.

Cohnheim was the first to clear away the main difficulties to an understanding of the process. He did it by experiments on the tongue of a frog. Plugging a nutrient branch, he observed that anæmia of the district supplied was the first important result; but it was soon followed by a backward motion of the venous current, which not only filled the veins but also the capillaries and arterial twigs, behind the plug; the result being *primarily* that wedge-shaped or pyramidal portions of lung tissue were developed, having a dull red color and soft consistency. This was the true hemorrhagic infarction. Reasoning from analogy, it was therefore presumed that a pulmonary infarction was produced in a similar manner.

The explanation offered was that when the pressure was taken off from the plugged pulmonary branch, (the venous pressure remaining constant), a motion of the venous blood took place in the direction of least resistance; which was backward toward the capillaries and thence into the empty arterial twigs. This explanation left out of consideration the arterial pressure in the bronchial arteries, which, though comparatively slight, Litten appears to have found was of decided consequence—and, indeed, was necessary. Hence, we may conclude that the first stage of an infarction is dependent not only upon venous pressure, but to some extent on arterial. But we have to go a step further. Not only are the vessels in the infarct distended with blood, but there is a transudation from them of their liquid contents, and a diapedesis of corpuscles, with naturally some proliferation of the normal solid elements of the part, as the result of vascular engorgement. Thus an infarction is produced, and now we stand on the threshold of a pneumonic inflammation.

For the fact that these infarctions are soon sur-

¹ This case is not included in my Table of 18 cases.

rounded by a zone of inflammatory oedema, and that the consolidated areas undergo all the successive changes of alveolar inflammation, *shows* that we are in the presence of an inflammatory process—in other words, a true pneumonia; even if the clinical phenomena are often obscure, and even appear to be absent. These remarks are apposite in their place, because it is not every clinician who is willing to recognize the embolic process as the source of true pneumonia.

Embolism does not, however, always produce a hemorrhagic infarction, and, so far as I know, the reason has been sought in the following facts: 1. That the bronchial arteries liberally supply the septa about an embolus; or, 2. That pulmonary capillaries are unusually capacious. Admitting, however, the truth of these allegations, about which there seems to be no doubt, it appears to me that they are merely in the *direction* of the truth; for two important conditions of the adult lung have never, I think, thus far been considered, both of which would operate toward preventing infarction. These are: 1. The retention by the lung of its fetal state; and, 2. The effects of antecedent inflammatory conditions.

If any one will take the trouble to examine a number of lungs, he will find that there is much difference between these as to the completeness of their development. In some lungs the lobules, especially of the periphery, are so distinct that they can easily be pulled out and separated from each other like the leaves of a tree. In other cases they are more or less completely amalgamated together, so that they can be parted with difficulty; or the amount of fibrous tissue may be so great as to remind one of the immature lung as it is seen prior to the fifth year of life. Again, from a variety of reasons, there may be some interstitial thickening of the lung, as in phthisis, but it is particularly noticeable in the chronic interstitial pneumonia of heart disease. Consequently, in cardiac disease, we may have two processes going on hand in hand: 1. An interstitial thickening, due to chronic venous congestion; 2. Embolism.

Now, in all these conditions, whether congenital or acquired, where the lung is provided with an unusual amount of fibrous tissue, we have increased vascularity, and hence a collateral circulation is easily produced. And, therefore, embolism in cardiac disease does not necessarily tend to hemorrhagic infarction, because nature has guarded against it in several ways. In fact, in any lung, circumstances *must* favor to admit of its development. Near the root of the bronchial tree it seldom—perhaps never—forms, because the capillary circulation is too active. But let an embolus get lodged near the edge of a lobe or in some prolongations of lung tissue (such as we often see, owing to the abnor-

malities of the lung, especially of the right); then the conditions are favorable to an infarction, and, as a matter of fact, there we find it in all its completeness.

Hence we see that pulmonary infarction is not easily produced in the normal adult lung, and even in a crippled lung, if the cardiac and respiratory movements are healthful, the danger is comparatively slight, because these capillaries are active, and they often and generally can prevent it.

Now, just as capillaries will tend to prevent an infarction, so they will diminish its area after it has been developed, and the original size and shape of the obstructed area will be modified largely, in proportion to their activity. Consequently, an infarction tends to diminish in size, and may, in part at least, be removed while it is going through the successive stages of pneumonia. This statement is sustained by the fact that an infarction is always smaller than the area of the nutrient supply—*i. e.*, in an uncomplicated case, as in the later stages of non-virulent infarctions. This pathological fact bears upon the prognosis.

But we have not considered the topic of infective emboli, a subject that has only recently been cleared up, to the extent of our understanding its main features. Infective embolism may be due to thrombi, bits of diseased tissue, or bacterial organisms. A study of these processes leads us to a consideration of the so-called malignant endocarditis and pyæmia. Let us review some of their main characteristics. Suppose, for example, that a thrombus has formed at some focus of infection. Disintegration of the clot or dissolution of some morbid product takes place, and the scattered fragments are carried upward to the right side of the heart, and so on to the lungs. In their progress they may be arrested at some point, possibly at a valve in the veins; perhaps at a rough spot in the vessels; perhaps in some nook or cranny of the right heart. A secondary thrombosis is now set up; if in a vein, occlusion of the vessel may occur. Then phlebitis follows, and it is of a suppurative character.

From this new point of departure the infective matter is prepared to start forward with enlarged proportions. Supposing that some of the débris is detained upon a roughened valve, further augmentation takes place, and a truly malignant endocarditis may ensue. But even the smallest amount of débris, starting from a diseased centre, if only it contains active bacterial organisms, can originate pneumonia by their lodgement in the termination of an arterial twig. And the multiplication of these bodies is so rapid that they will soon form veritable colonies, capable of occluding vessels of considerable size. Supposing, however, that they do not find lodgement until the lung capillaries are reached, we shall still have a pneumonia set up, and just as if

there had been an infection; and it can be called embolic, since the vessel is plugged, though it be only a capillary. Hence, an infarction is not positively essential to the production of embolic pneumonia.

It is not necessary to suppose that in such cases there is a microorganism of definite size and shape; any microorganisms may act in this way. Indeed, it is possible that they act simply as carriers of the poison, while at the same time they are constantly generating it. If they lodge in the capillaries, rupture may readily occur and hemorrhage; and we may call the process pulmonary apoplexy, but the term is misleading. For an understanding of these processes we have to depend upon a substratum of facts derived from animal experimentation, a study of the human lung in its course of development, the teachings of morbid anatomy, general pathology, and processes of reasoning based upon all. In no other way can the matter of embolism be made intelligible.

(To be concluded.)

**REPORT OF A CASE IN WHICH A LARGE-HEADED
BRASS SHAWL-PIN REMAINED IN THE
TRACHEA FOR TEN DAYS, AND
WAS REMOVED SEVEN HOURS
AFTER TRACHEOTOMY.**

*Profuse Hemorrhage from the Trachea and Expulsion of a Large Number of Fibrinous Casts.*¹

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ANNIE R., aged four years, was admitted to the Children's Hospital January 5, 1889, with symptoms of dyspnoea, which were supposed to be due to the presence of a foreign body in the larynx or trachea, her friends stating that ten days previously she had been playing with a large-headed brass shawl-pin, which she acknowledged that she had swallowed. She had also been under the care of her family physician, Dr. Longenecker, and Dr. T. A. Downs; the latter stated that he had seen the pin in the larynx.

Examination of the patient at the time of her admission to the hospital showed that she presented symptoms of dyspnoea, but not of an urgent character. Auscultation of the lungs revealed the presence of moist râles over their posterior surfaces, most upon the right side, and the patient also had marked paroxysmal cough.

As the case was admitted late in the evening, and as the dyspnoea was not urgent, and the patient was in the hospital under careful observation, Prof. Ashhurst decided to postpone any attempt to search for or remove the foreign body until the following day. Accordingly, on the following day, after an unsuccessful attempt to make a laryngoscopic examination, it was deemed best to perform tracheotomy and to

attempt to remove the foreign body. Prof. Ashhurst, under whose care the patient was, exposed the trachea below the isthmus of the thyroid gland and opened it at this point. When the trachea was opened there was profuse bleeding, large quantities of blood escaping from the tracheal wound. A tracheal dilator was hurriedly introduced and the trachea was rapidly cleaned of blood with sponges and feathers, and it was with the greatest difficulty that the trachea could be kept sufficiently free from blood to permit of the child getting a sufficient quantity of air.

It was also observed at this time that there were expelled from the trachea with the blood shreds and masses of fibrinous material, closely resembling those seen in cases of diphtheritic croup in which the trachea has been opened. The amount of this fibrinous material which was expelled and removed with forceps and a feather was so large that we were almost inclined to think that the dyspnoea from which the child had suffered was due to its presence, and that the foreign body had possibly not entered the air-passages. As the hemorrhage had ceased, the dilator was removed and a tracheotomy tube was inserted, and as the child was suffering markedly from the loss of blood, and was breathing comfortably through the tracheotomy tube, it was deemed best to postpone any further attempts to search for and remove the foreign body until she had thoroughly reacted.

The patient was put in her bed and was given carbonate of ammonium freely. Care was also taken to see that the tube was kept free from blood and shreds of membrane, and when I saw her a few hours later I found she had reacted fairly well and was breathing comfortably. Seven hours after the trachea had been opened she began to cough and eject blood from the tracheotomy tube, and I was summoned to see her, in the absence of Prof. Ashhurst.

When I saw her I found she had lost a considerable quantity of blood, and was suffering markedly

FIG. 1.



Fibrinous cast from trachea (actual size).

from dyspnoea. Her color was bad, and she was getting very little air through the tracheotomy tube. I placed her upon the operating-table in a good light and removed the tracheotomy tube and introduced Golding-Bird's tracheal dilator, and upon cleansing the trachea of blood I discovered a large fibrinous cast (see Fig. 1) in the trachea just below

¹ Read before the Philadelphia County Medical Society, February 20, 1889.

the lower border of the tracheal wound, which I removed with forceps. This evidently had occluded the lower orifice of the tracheotomy tube and had been the cause of her dyspnoea, for upon its removal her breathing became good and her color improved.

I took the opportunity at this time to explore the larynx, both from the wound and from the mouth, for the presence of the foreign body, but with a negative result. I now introduced the tracheal tube and she breathed comfortably until after taking something to drink she was attacked by a severe cough, and she soon presented very urgent symptoms of dyspnoea. I again removed the tracheotomy tube and introduced the dilator, and after hurriedly cleansing the trachea of blood and membrane I saw lying close to the posterior wall of the trachea the point of the pin; this I seized with forceps, and with some little difficulty removed it. This proved to be a brass shawl-pin, about two inches in length, with a large head (see Fig. 2); and from its length and the position

FIG. 2.



Brass shawl-pin (actual size).

which it occupied in the trachea, I think its head must have been impacted in the right bronchus. After removing the foreign body the tracheal tube was again introduced, and as her breathing was quiet and regular she was placed in her bed, and soon fell into a sound sleep.

In this case I thought it advisable to introduce the tracheotomy tube after removal of the foreign body, as it had by its presence set up so much tracheal irritation, as evidenced by the membrane and hemorrhage, although I think in uncomplicated cases it is better not to introduce any tube if the foreign body has remained only a short time in the trachea.

The child for the next few days continued to expectorate from the tube some bloodstained mucus and small particles of the fibrinous matter before referred to, and at the end of six days the character of the expectoration from the tube had changed and consisted simply of glairy tracheal mucus. The tracheotomy tube was now removed and the wound allowed to heal by granulation, and the child was discharged from the hospital with the wound healed on January 21st.

The above case presents some points of clinical interest which I myself have never seen in cases of foreign body in the air-passages, and which I am not aware have been pointed out by other observers.

I refer to the profuse hemorrhage which occurred from the trachea after it had been opened, and to the presence of the large quantity of fibrinous material which was expelled from the wound at the time of operation, and which was removed subsequently. The source of the hemorrhage is, in my mind, uncertain, either arising from the congested and inflamed mucous membrane of the trachea, as the result of the separation of the fibrinous casts or from injury to the mucous membrane by the foreign body,

and I am rather inclined to attribute its source to the former cause.

The fibrinous casts which were expelled and removed from the trachea, which so closely resembled the membrane which is seen in cases of croup, is a feature of special interest, for in a number of foreign body cases which I have seen, and in which the trachea was opened after the offending body had remained in it for some time, I have never seen a similar condition obtain. Although in one of these cases, in which a foreign body, a portion of a grain of Indian corn, had been in the trachea for two weeks, there was such marked swelling of the mucous membrane of the trachea that its calibre was almost occluded. In this case the casts seemed to be due to the deposit of lymph from the irritation produced by the presence of the foreign body.

The prognosis in cases of foreign bodies lodged in the air-passages is always grave, for although there are many recorded cases in which such bodies have occupied this situation for months, or even years, without causing alarming symptoms, and recovery has taken place upon their expulsion or removal by operative means.

On the other hand, there must be taken into consideration the danger which constantly threatens the life of the patient from the foreign body changing its position, and suddenly occluding the chink of the glottis, or of the body increasing in size, if its composition be of such a nature as to admit of this from the absorption of moisture from the secretions of the respiratory passages, rendering its expulsion through the glottis less likely.

We must also take into consideration the inflammatory changes which the presence of a foreign body in the larynx, trachea, or bronchus may set up if it has occupied either of these positions for any considerable time, and which of themselves have led to a fatal issue after its expulsion or removal.

The treatment of cases of foreign bodies in the air passages depends somewhat upon the position which they occupy, upon the individual peculiarities of the case, and upon the urgency of the symptoms arising from their presence.

When the foreign body occupies the larynx, if the dyspnoea is not extremely urgent, it may be located by a laryngoscopic examination and its removal by laryngeal forceps is a safe and efficient procedure in skilful hands, but I think in the vast majority of cases this procedure will not be satisfactorily accomplished, for the reason that most patients, especially children, require a certain amount of training before the ordinary laryngoscopic manipulations can be made with satisfaction.

The employment of emetics in the treatment of foreign bodies in the air-passages, while not entirely free from danger, has proved of little service in effecting their removal.

Inversion of the body as a method of treatment of cases of foreign bodies in the air-passages is now generally regarded as a dangerous procedure from the risk of the body becoming impacted in the chink of the glottis, unless there has previously been made an opening into the trachea, or unless the surgeon is prepared to perform an immediate tracheotomy if dangerous symptoms arise.

When the foreign body has passed through the larynx and entered the trachea or bronchus, I think the chances of its spontaneous expulsion are very much diminished; and I think then, a laryngotomy, from the ease and rapidity of its performance, if the dyspnoea is very urgent, will be the best operation to select. On the other hand, if the danger is not so imminent, I think a tracheotomy, and preferably one below the isthmus of the thyroid gland, will be found to be the most satisfactory operation to employ, as by this procedure, if care is taken to make the tracheal wound sufficiently large, thus favoring the expulsion of the foreign body, if it be movable; or, on the other hand, allowing the surgeon through it to make a satisfactory exploration of the trachea and bronchi below or of the trachea and larynx above. A tracheal dilator should then be introduced, and the self-retaining dilator of Golding-Bird will be found to be a most useful instrument; or blunt hooks may be used to hold the edges of the wound apart, and when the position of the foreign body has been ascertained it can generally be easily removed with forceps.

MEDICAL PROGRESS.

Phenacetin in the Treatment of Whooping-cough.—DR. R. HEIMANN, of Landau, preports in the *Münch. med. Wochenschrift* of March 19, 1889, some of the successes which he has obtained with phenacetin in the treatment of whooping-cough. Failing to obtain any satisfactory action from antipyrin, he resorted to phenacetin, the action of which proved to be most satisfactory. The paroxysms of coughing which, before its administration were as many as from ten to fifteen, were, after the drug had been taken, reduced to three, and after several days they disappeared altogether, returning only at night, the drug being then withheld.

To a three-year-old boy the author administered 6 grains in four doses of $1\frac{1}{2}$ grains each, to a two-year-old girl $4\frac{1}{2}$ grains in three doses, and to a nursing 3 grains in four doses of $\frac{3}{4}$ grain each; after-effects were never observed, $1\frac{1}{2}$ grains of the drug sufficing to keep the paroxysms in check for three hours.

To assure himself of the efficacy of this drug, the author omitted its administration in some cases for a day, which resulted in a return of the number and severity of the paroxysms.

Creasote in Lung Affections of Children.—With a few exceptions almost all observers speak well of the value of creasote in tuberculosis, and agree in saying that even if recovery is not to be hoped for, marked improvement of

the chief symptoms follows its employment. All the communications hitherto published relate to adults, and PROF. SOLTSMANN, of Breslau, is the first to record his experience of the remedy in children. We have, he says, given creasote in chronic lung diseases with little or advanced destruction without considering the presence or absence of bacilli. After all due allowance is made for care in hospital, suitable nourishment, baths, good air, etc., considerable advantage is evidently derived from the administration of creasote, since cases which were not doing well began to improve unmistakably under increasing doses of creasote. He gives two to seven drops of creasote a day—*i. e.*, from one to six grains, while adults were ordered from four to eight, or even twelve grains daily by Sommerbrodt.

Soltmann's prescription is this:

R.—Creasote	.	.	.	.	guttæ 4-14.
Sp. æther.	.	.	.	.	vj-xij.
Aq. dest.	.	.	.	.	ʒjʒvj.
Sacch. alb.	.	.	.	.	ʒiiss.

A teaspoonful every two hours.

It merits especial mention that the creasote was well borne by all the children. Stomach-ache, nausea, vomiting, diarrhoea, inconveniences which often render treatment by creasote impossible in adults, never occurred. Even in high fever, which by all authors is spoken of as a contraindication, the creasote was taken without disadvantage. That the large doses helped to give the good results is probable from Guttman's experiments on the antiseptic power of creasote on many microorganisms. Very remarkable in many cases was the increase of appetite and gain in body-weight, the diminution of cough and expectoration, and the gradual disappearance of pathological lung-symptoms. He concludes that creasote exerts in chronic lung-disease with suspicion of tuberculosis a markedly favorable influence, especially in cases where there is not much destruction of lung or other severe complication, and where there is not too high fever, the general strength being relatively good.—*London Medical Recorder*, March 20, 1889.

Antipyrin in the Treatment of Whooping-cough.—DR. DUBOUSQUET-LABORDERIE, at a meeting of the Society of Therapeutics of Paris, held February 27, 1889, stated that for the last two years he had used antipyrin in the treatment of whooping-cough. His object at first in using this drug was to overcome the nervous symptoms, but he was soon convinced that it also influenced the catarrh as well as the specific cause of the disease. In 94 cases he obtained improvement in 71; the duration and the intensity of the disease, as well as the number of paroxysms of coughing, were diminished. Unfavorable symptoms were never observed; in no case did the drug affect the urinary function; in two patients he observed a passing cutaneous eruption; only rarely did gastric symptoms oblige the suspension of the treatment, and when they did occur, the impurity of the drug was found to be the cause. For children between the ages of one and three years, the dose administered was from five to fifteen grains, and above that age, from thirty to sixty grains. Dissolved in Vichy or some other mineral water and some syrup added, the drug is easily taken by little patients.—*Gazette Hebdomadaire*, March 15, 1889.

Paracentesis Pericardii.—In the course of an article upon pericarditis (*L'Union Méd.*, No. 31), M. PAUL CHÉRON cites Fevrier's conclusions respecting the indications for surgical interference, and the best method of puncturing the pericardial sac. Such interference, he says, is called for when the effusion by its quantity threatens to arrest the action of the heart; that in such a case the presence of a concomitant pleural effusion must not be overlooked, and, if existing, should be dealt with first. A second ground for intervention is when the effusion is of long standing, and consequently liable to induce change in the cardiac muscles. A third indication is the fact of the effusion being purulent. Fevrier does not refrain from recommending tapping in tubercular pericarditis, in spite of the fact that out of twenty-two cases of this form of pericarditis so treated twenty patients died at various intervals (from eight hours to seven months) after the operation.

Fairly good results have been obtained in hemorrhagic cases, five out of nine having recovered after tapping. In serous effusions simple puncture suffices, but in purulent cases the pericardium must be incised. Out of fifteen cases of purulent pericarditis treated by incision, eleven died. He warns against delaying the operation too long, and attributes to that circumstance an instance where sudden death followed washing out of the sac, the heart being probably degenerate. The site selected for puncture by the aspirator should be the fourth or fifth interspace to the left of the sternum.

For free incision it is recommended to select the fifth interspace, and to incise the tissues layer by layer for a distance of three or four centimetres, taking care to avoid the internal mammary artery, which may need to be drawn inward; then, having exposed the pericardium, it may be carefully incised with a guarded bistoury, the portion of the membrane being drawn forward by forceps. Great care should be exercised in irrigation, if this be employed.—*Lancet*, March 23, 1889.

Sulphonal in Night-sweats.—DR. BÖTTNICH, of Hagen, reports in the *Therap. Monatshfte* for March, 1889, the following remarkable action of sulphonal. He administered to a lady, eighty years of age, who had passed many sleepless nights, fifteen grains of sulphonal as a hypnotic. The lady suffered so profusely from night-sweats that she was frequently compelled to change her night-dress twice during one night. After the administration of the first dose of sulphonal, she asked the author whether he had given her anything to prevent the sweating, so rapid was the effect.

Further investigations proved that in most cases night-sweats could be overcome by taking thirty grains of sulphonal before retiring. The author compares the action of sulphonal to that of atropin, the former, though, possessing none of the unpleasant after-effects of the latter. Although the remedy was omitted every second night, the sweating in most cases was still quite perceptibly diminished.

Hypodermatic Injections of Quinine in Malaria.—DR. J. A. CORREA DE CARVALHO, of Extremoz (Portugal), has recently recorded (*Coimbra Medica*, February 1, 1889) a case of malaria which he succeeded in curing by hypodermatic injections of quinine. The patient was a woman

aged thirty-five, in whom the disease had reached the cachectic stage. The skin and mucous membranes were discolored, and the spleen, which was very tender on pressure, reached down to the left iliac fossa, and extended toward the right to within one to one and a half inches of the middle line. The stomach was dilated, and the patient suffered much from dyspepsia. The temperature varied from 102.2° F. in the morning to 100.4° in the evening. Sulphate of quinine was given internally in capsules and in pills, but only with the effect of aggravating the gastric disorder. On November 18th hypodermatic injections of neutral hydrochlorate of quinine were commenced, at first in doses of six grains and afterward eight grains. The temperature soon began to fall even in the morning, and by the middle of December it was normal, never exceeding 98.6° in the evening, and being sometimes below 98° in the morning. On January 13th the patient was discharged cured, the spleen being much reduced in size and not at all tender, and the discoloration of the skin and mucous membranes having almost entirely disappeared. Her dyspepsia had also ceased to trouble her. The injections, which were all made under the skin of the forearm, caused a little irritation. A few small abscesses formed around some of the points of puncture, and had to be opened, but gave no further trouble.

The following is the formula of the solution used for injection:

R.—Basic hydrochlorate of quinine . . . gr. xv.
Pure hydrochloric acid . . . ℥j.
Distilled water 3ss.

These ingredients should be placed in a test-tube and exposed to the action of gentle heat. A clear solution will be obtained, each sixteen minims of which will contain eight grains of neutral hydrochlorate of quinine. The solution should be injected warm. Dr. A. Rocha (*Coimbra Medica*, November 15 and 16, 1888) first recommended this method, which he had employed successfully in a patient suffering from malaria, to whom it was found impossible to give quinine in any other way. Drs. Buermann and Villejean had independently described a somewhat similar method a short time before.—*British Medical Journal*, March 16, 1889.

Treatment of Variola and Varioloid with Cocaine.—DR. E. ORY gives, in an exhaustive article in the *Revue gén. de Clin. et de Thér.*, No. 9, his results obtained with cocaine in the treatment of variola and varioloid. They are as follows: In an extremely severe case of confluent varioloid immediate improvement and arrest of evolution of the papules were observed after the patient had taken somewhat over ten pastilles containing each $\frac{1}{3}$ of a grain of cocaine. Further treatment consisted in the administration of ten drops of a five per cent. muriate of cocaine solution, which dose was repeated four times daily; in less than ten days the patient was cured. In a second case of varioloid a cure was effected by the same method of treatment five days after the eruption first made its appearance. A third case of severe hemorrhagic varioloid healed without scars after five days' treatment. Also, in two cases occurring in children, a cure was effected after five and six days respectively. As already stated, the author administers to adults ten drops of a five per cent. solution four times daily, while

to children were given, four times daily, eight drops of a one per cent. solution. It is often difficult to make a positive distinction between cases of variola and varioloid, as the pustules dry up immediately after the application of the cocaine. The fact that cocaine is capable of neutralizing the variola-virus in the infected body has led the author to believe that it can prevent infection of the healthy organism, and that it should be used as a preventive remedy in the immediate surroundings of the sick chamber.—*Wiener med. Presse*, March 17, 1889.

Antiseptic and Analgesic Cotton for the Dressing of Wounds.—DR. ELLER (*Revue gén. de Clin. et de Thérap.*, March 7, 1889) recommends the following as an analgesic and antiseptic mixture:

R.—Cocaine hydrochlorate	3 parts.
Water	60 "
Boric acid	6 "
Glycerine	8 "
Carbolic acid	2 " —M.

Dissolve the cocaine in the water, and the boric acid in the glycerine; then mix these together and add the carbolic acid.

This preparation serves to render antiseptic as many ounces of cotton as ounces of water have been used. The cotton thus obtained serves as a dressing for burns.

What Medicines may be Given to Nursing Mothers.—FELING has opened an important field of inquiry, by a series of experiments to determine what drugs may be safely given to nursing mothers. He found that salicylate of sodium was dangerous to the infant when given to the nurse in doses as large as forty-five grains daily. Iodide of potassium may be given in doses of three grains daily. Iodoform enters the system of the infant more readily through the nurse than when given to the child. Even when the wounds of the mother were dressed with iodoform, iodine was found in the child's urine. He found that mercurial salts given to the mother affect the child very slightly, if at all, and that twenty-five drops of tincture of opium (German Pharmac.) and one-tenth to three-tenths of a grain of morphia could be safely given to the mother. Chloral may be given in doses of twenty-three grains to forty-five grains. Atropine affects the child very quickly, even in small doses. He denies that salads and acids have an injurious effect on the child.—*Medical Press*, March 20, 1889.

Eczema of the Nails.—DR. DE LA HARPE, *privat-docent* in the University of Geneva, mentions in the *Revue Médicale de la Suisse Romande* a somewhat rare case of eczema of the nails, which came under his notice while he was acting as medical officer at the well-known baths of Louèche, or Leuk. The patient was a man of sixty, who had been sent to Louèche by Prof. Hardy. There was no history of gout or other hereditary disease, and up to two years previously the nails had been in excellent condition. The first sign of anything wrong that was noticed was a slight redness about the ungual furrow of the ring finger of the right hand, which was at first supposed to be panaris, but instead of going on to suppuration it was followed by morbid changes in the nail itself, which soon became thickened and friable, with a rough-

ened surface. The nails of the other fingers on both hands subsequently became affected, as shown in figures appended to the paper. When seen by Dr. de la Harpe, the affected nails were swollen, bent transversely, and marked with longitudinal striæ or grooves. Two apparently healthy nails showed fine depressed points.

Regarding the cause of these appearances, which are the first signs of the commencement of the affection in otherwise normal nails, Dr. de la Harpe remarks that he has seen a case of chronic eczema of the hand in which there were a number of longitudinal grooves on the nails, some of them interrupted—that is to say, in sections. The punctate marks on the nails in the case in question may possibly be analogous to the interruptions noticed in this latter case. As to the treatment by means of the Louèche waters, it appears to have effected marked improvement.—*Lancet*, March 23, 1889.

A Cause of Biliary Calculi in Women.—MARCHAND finds women's stays a frequent cause of the formation of gall-stones. The pressure exerted by these articles of dress on the liver is transferred to the gall-bladder and its ducts. This pressure is not uniform; it is more constant by day, but decreases at night, or is exerted only when the form of the thorax is already altered by pressure. This pressure causes the retention of the bile in the gall-bladder. During the daytime the bladder tends to empty itself; in the intervals of digestion, and during the night, there is a tendency to refill itself. If the daily evacuation of this organ is prevented, or only imperfectly effected, there is a recurrence of stagnation of bile and consequent disposition to the formation of gall-stones.—*Medical Press*, March 20, 1889.

A Simplified Method of the Cold Water Treatment of Fever.—DR. PLACZEK (*Virch. Arch.*, cxv) has of late taken up this treatment, at first advocated by Preyer and Flasher, in 1884, and by Hiller in 1886, the latter having successfully used it in treating soldiers suffering from sunstroke. This treatment consists in spraying the entire body surface with water until a fall of temperature is obtained.

In an animal with high temperature, Dr. Placzek succeeded in reducing the same two degrees by spraying the body with one and a half pints of water of from 53° to 59° F. and immediately after with three ounces of 95° F. The after-spraying with water of a higher temperature dilates the capillaries and this induces a consequent loss of considerable body-heat.

Thus in a tuberculous subject whose evening temperature would at times reach 104° the author reduced the same to normal by using somewhat over one pint of water of from 59° to 66° F. The temperature was with ease kept for four hours at this standpoint and then gradually allowed to rise, but not allowed to reach its former high standing.

Compared to the ordinary method of bathing, this treatment has the advantages of simplicity and comfort, factors not to be disregarded in private practice. The patient simply remains in bed, coverings and shirt are removed, a rubber or wax-cloth laid under him, and the *modus operandi* proceeded with. As each application does not require more than twenty-five minutes, it can be repeated several times daily.—*Prager med. Wochenschrift*, March 20, 1889.

THE MEDICAL NEWS.

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OF MEDICAL SCIENCE.

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SATURDAY, APRIL 13, 1889.

CATGUT RINGS AS A SUBSTITUTE FOR BONE PLATES IN LATERAL ANASTOMOSIS OF THE INTESTINES.

IN the *New York Medical Journal* of March 23d, Dr. ROBERT ABBE has reported another case (in addition to the four already reported by Senn) which illustrates admirably the value of lateral anastomosis of the intestines, and suggests what we think will prove an important addition to our means of effecting it.

The case was one of carcinomatous obstruction in which, under cocaine anæsthesia, Abbe opened the abdomen and found the colon distended to eight or ten inches in diameter. A temporary artificial anus was established, giving escape, according to the author's "moderate estimate," to twenty-five or thirty pounds of feces, including in it fish-bones, cherry-stones, grape and melon seeds, large fragments of bone the size of the finger-nail, together with scraps of oakum, yarn, and wood-shavings. In six weeks after this relief, an operation was done to overcome the stricture. This was effected in the ordinary way by the use of Senn's decalcified bone plates, the seat of the stricture, which proved to be cancer, being in the ascending colon.

The most important point, however, in Abbe's paper, is his suggestion of the substitution of catgut rings for Senn's plates. These plates are admirably made, and can be obtained from Milwaukee, but if one desires to make them for one's self, it involves a number of days and considerable labor. Unless,

therefore, the operator has them always on hand, or the case can wait, serious embarrassment might arise. Abbe's suggestion is that the heaviest catgut, softened by hot water, shall be wound four times around the ends of three or four fingers, according to the size of ring desired, and then wound over and over again with the same sized gut to hold the primary strands together. Four to six threads are then simply tied around the ring or passed through by a needle. The wall of the bowel is to be penetrated, and the two openings secured in apposition by these threads. They should be used, we think, single, and not double, as shown in Abbe's cut. The advantages of such rings are that they can be made extemporaneously in a few minutes; they are elastic and present a larger opening than Senn's plates, a point of some importance, for the opening in the latter has sometimes been found in practice to become blocked.

But a few days ago Abbe carried out his suggestion in an operation upon a case of fecal fistula not yet published, and the rings were used efficiently. The result of the operation at the end of ten days was admirable, and the rings bid fair to be an excellent substitute for the bone plates. In addition to the threads attached to the rings passed through the wall of the bowel, as advised by Senn, a few Lembert sutures should be applied in the interspaces, perfect approximation being secured in this manner.

Abbe has also suggested in his paper that the two ends of the gut should not be laid side by side with the ends together, but with the ends pointing in opposite directions. The peristalsis then would be in the same direction for both parts, and the current of the feces would be simply switched, as it were, to a parallel side track, thus avoiding considerable contortion of the gut, which Abbe found in one of his experiments on dogs.

In the *Lancet* of March 16th is a striking confirmation of the value of lateral anastomosis furnished in a paper by JESSETT and HORSLEY. They reprint a large number of experiments and give the results as follows: The operation, as at present practised by the Czerny-Lembert suture, gives a mortality of 86.6 per cent., as against 24.99 per cent. of enterorrhaphy by Senn's invagination method, and only 7.69 per cent. by the method of approximation plates. The time required by the Czerny-Lembert method, which necessitates fifty to sixty sutures, was an hour and a half; the method by Senn's plates required only twenty minutes and

needed but four to six sutures. It is with no little pride that we can point to this increased improvement as an American achievement.

FIRST HELP ON RAILWAY TRAINS.

It is a humane foresight which, upon all large ocean-going vessels, makes ample provision for the relief of accident and sickness among both passengers and crew. This provision might be imitated upon railways so far as to furnish some of the simpler forms of surgical appliances for the first treatment of wounds and hemorrhage, in cases of accident. It will often happen that casualties occur at points distant from cities and the succor of the surgeon, and there will often be a dearth of any kind of dressings or of hemostatics. It would not be a difficult matter to provide all trains with packages containing a tourniquet, lint, and aseptic or styptic applications, having their method of use plainly described upon the wrappers. The employés of railroads are commonly of an intelligent and teachable class, and they—or a portion of them—could, without difficulty, be instructed in the utility of these dressings.

The humane aspect of this proposition is not the only argument for it; it appeals also to the self-interest of the companies, since the damages that are meted out to them in the courts, in consequence of railway accidents, are liable to be laid in heavier sums if the injuries for which they have to pay assume an aggravated form in consequence of delayed treatment. The interests of the trainmen are also involved, since a greater proportion of the injuries that occur happen to them than to the passenger class, and it cannot fail to lighten the anxieties of many of them to know that they will not be absolutely wanting in the means of self-help in emergencies, and all the more so if some one of their own number shall have been taught how to use those means.

A NUMBER of the strongest State medical societies or associations will hold their conventions within the next sixty days: that of Alabama, "the model organization of the South," opened on the 9th inst., at Mobile; Georgia opens on the 17th inst., at Macon; Texas, on the 23d inst., at San Antonio; Michigan, May 9th, at Kalamazoo; Illinois, May 21st, at Jacksonville; and Ohio, May 22d, at Youngstown. The National Association of Railway Surgeons will hold its annual meeting at St. Louis, beginning May 2d; its officers announce that this

will probably be "one of the largest gatherings of medical men ever held in this country."

THE Health Commissioners of New York adopted the following resolution last week: "That Drs. T. M. Prudden, H. M. Biggs, and H. P. Loomis, the pathologists of this department, be and are hereby requested to formulate a brief and comprehensive statement regarding the contagiousness of tuberculosis in man, stating therein the evidence of the same, and recommending in the briefest possible manner the simplest means of protection from its influence."

THE Medical and Chirurgical Faculty of Maryland will hold its ninety-first annual session at Baltimore, April 23 to 26, 1889, under the presidency of Dr. John Morris, of Baltimore. Prof. William Osler, of the Johns Hopkins University, will deliver the annual address, on "The License to Practise," with special reference to State Boards.

DR. CRAIK, Emeritus Professor of Chemistry, has been appointed Dean of the McGill Medical Faculty, in place of the late Dr. Howard, and Dr. George Ross, Vice-Dean. Dr. Ross has also been transferred from the Chair of Clinical Medicine to that of Practice of Medicine. Dr. Richard MacDonnell becomes Professor of Clinical Medicine.

AT recent commencements the degree of Doctor of Medicine was conferred as follows: University of Maryland, 110; University of Buffalo, 46; Atlanta Medical College, 43; Southern Medical College, Atlanta, 35; Medico-Chirurgical College, Philadelphia, 30; Beaumont Hospital Medical College, St. Louis, 22; St. Louis Medical College, 15.

THE following changes have occurred in the corps of teachers of Bellevue Hospital Medical College: Dr. E. L. Keyes has resigned the Chair of Genito-urinary Surgery, Syphilography, and Dermatology, and Dr. Samuel Alexander, of the Class of 1882, has been appointed to fill that chair. Dr. Carlos F. Mac Donald, Superintendent of the State Asylum for Insane Criminals, at Auburn, of the Class of 1869, has been appointed Professor of Mental Diseases.

THE Governor of the State of New York has nominated Dr. Allan McLane Hamilton to be Health Officer of the Port of New York. It is reported that the policy of "hanging-up" the nomination will be

followed in the State Senate so as to prevent the removal of Dr. W. M. Smith, the present incumbent.

It is stated that nearly one hundred and fifty Americans have been attending medical lectures at Vienna during the past winter.

It is proposed to raise an endowment fund of \$100,000, to be called the "C. R. Agnew Memorial Fund," the income of which shall be applied to the running expenses of the Manhattan Eye and Ear Hospital. It is believed that there are many friends of the late Dr. C. R. Agnew who will gladly contribute to this fund to mark their sense of his own generous nature, and to aid an institution which he founded and cherished with self-denying care.

THE *Brooklyn Medical Journal* for March points with satisfaction to the financial failure of a patent medicine known as the "Scotch Oats Essence." The effects of the company were recently sold out in New York City, under the hammer of the sheriff, sixty-three gross of the nostrum selling for four cents per bottle, the price of which at retail had been one dollar formerly. The downfall of this dangerous and extensively advertised patent medicine was brought about primarily by an analysis by Dr. Eccles, of Brooklyn, by which it was made known that morphia was its efficient ingredient. The unassisted efforts of a private practitioner were thus the means of a palpable victory over quackery. It would be well if a prize fund could be established for the recognition of such life-saving action.

THE Clinical Institute of Professor Ziemssen, at Munich, is a noteworthy feature among the educational institutions of that city. It forms a wing to the medical side of the hospital, and is sufficiently spacious to accommodate an out-door clinic and an elaborate provision for exhaustive clinical research. It was built six years ago, according to plans devised by Ziemssen himself, his object being not so much to give additional means for study to the average student as to promote original clinical work. It is sustained by an annual grant of three thousand dollars. It has a suitable lecture-room, with laboratories for medical chemistry, microscopy, bacteriology, and electrical experimentation of every kind. It also contains an ample reference library. Herr Ziemssen is autocrat, and with the aid of one regularly appointed assistant, gives direction to the scientific investigation of the medical cases.

DR. J. H. KIDDER, of the Smithsonian Institution, and formerly of the Navy, died in Washington, last Monday, of pneumonia, aged fifty years. Dr. Kidder was a native of Maryland. He graduated at Harvard, and then entered the Navy as an Assistant Surgeon, continuing in the service until about six years ago, when he resigned. During the latter part of his connection with the Navy he was detailed for duty on the Fish Commission under Prof. Baird, where he remained until the death of the latter. Since then he has been Director of the International exchanges in the Smithsonian Institution. Dr. Kidder was a chemist of high rank, and in that field did some excellent work at the Institution.

DR. CHARLES J. B. WILLIAMS, Physician-Extraordinary to the Queen, died at Cannes on March 24th, in the eighty-fifth year of his age. For nearly thirty years prior to his retirement from active professional work in 1875, Dr. Williams held a leading place among the London consultants. He was the first President of the London Pathological Society, of the New Sydenham Society, and in 1873 he was elected President of the Royal Medical and Chirurgical Society. He was the author of well-known works on the *Diseases of the Chest*, on the *Principles of Medicine*, and on *Pulmonary Consumption*. He also took an active part in the formation of the Hospital for Consumptives, at Brompton.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, April 4, 1889.

THE PRESIDENT, ALFRED L. LOOMIS, M.D.,
IN THE CHAIR.

DR. T. GAILLARD THOMAS read a paper on

ACUTE MANIA AND MELANCHOLIA AS SEQUELÆ OF
GYNECOLOGICAL OPERATIONS.

(See page 396.)

DR. JAMES B. HUNTER said he was personally cognizant of several cases, including two or three of the more remarkable ones reported by Dr. Thomas, and he could say that the author had underrated rather than overrated the peculiarities of the cases. He thought Dr. Thomas was correct in supposing that gynecological surgery was not more liable to the accident than other surgery. He was present a few nights before at a meeting where the relation of cases of this kind had taken place, and all the surgeons present had some cases to relate. He thought the cases might be classified. The first class, and he thought the smallest, included those in which the psychosis was due entirely to the operation. The

second class included patients in whom there was a predisposition to the development of some nervous trouble, and in whom the operation served to light up the disease. The third class included those in whom the disease developing at the time of an operation was a mere coincidence, and with or without the operation the mental trouble would have progressed. Such cases could not be easily discriminated beforehand. He had one case in which the mania developed a year after removal of an ovarian tumor. He was unable to say whether there was any connection between the operation and the insanity.

There was still another class of cases, alluded to by Dr. Thomas when he spoke of the possibility of iodoform poisoning. This class included all those cases in which the mental symptoms were dependent upon some drug used during the operation, as iodoform, bichloride, carbolic acid, etc. A small quantity of iodoform would develop acute mania in some patients. He also thought that in some patients predisposed to insanity ether might bring on an attack. His impression was that the psychological condition should not interfere with operating. Then there were severe nervous diseases, as epilepsy, which were sometimes cured by an operation. He thought there was some connection between the mental disturbance and the amount of surface exposed during the operation. In operations on the breast and peritoneum, there was greater liability to such disturbances.

DR. NICHOLS, President of the Bloomingdale Asylum for the Insane, said that during his term of service, eleven years, there had been but two cases of insanity following gynecological operations in the institution, one being a case operated upon by Dr. Thomas (according to the statement of the patient's friends), the other a case operated upon recently for removal of one ovary. The latter was suffering from a grave type of suicidal melancholia, the former from paranoia or primary delusional insanity. In both an abdominal fistula had remained, which, however, caused no material pain or drain. He thought the whole number of cases reported, twenty-six, was quite small in proportion to the number of gynecological operations. He saw only one or two possible reasons for insanity following gynecological operations, one being prolonged anxiety from contemplating the operation, and the other the exposure of a considerable surface during the operation, as in removal of tumors of the breast and in laparotomies, which caused more shock than where small surface was exposed.

DR. PAUL F. MUNDÉ had first had his attention called to this subject by Dr. Ill's paper. At that time he thought he had seen no cases of the kind, but he was now convinced that one operated upon by him seven or eight years ago belonged to this class. Twenty-four hours after the operation it was necessary to apply the strait-jacket, but the patient recovered. No iodoform was used.

The past winter his attention had been called to the subject again by a case of Dr. Townsend's, and he had had two himself. One was in a woman on whom he operated for an ovarian tumor with a twisted pedicle; she was of rather melancholic disposition, and after the operation she refused to speak for three or four days. The temperature and pulse were normal. The other case was in a patient on whom he performed Alexan-

der's operation and a plastic operation on the walls of the vagina for prolapsus of the uterus. Some hours after the operation the woman became maniacal, requiring the strait-jacket. There was some fever, the pulse was rapid, but there was no sepsis. The patient recovered after remaining maniacal at least a week.

While considering these cases he had been disposed to think that such mental disturbance was more likely to follow removal of the ovaries than other operations. The natural menopause often caused a marked change in the patient's conduct. Might not also the menopause brought on prematurely produce a marked influence? Since the occurrence of his second case, however, he had thought removal of the ovaries had nothing in particular to do with it. It seemed to him that gynecological operations were no more likely to be followed by mania than other operations. He did believe that long meditation and anxiety regarding the operation might have considerable to do with it. Also, that prolonged anaesthesia had an influence. He did not, however, believe that iodoform was a cause, for iodoform was often used in large quantities without producing any maniacal symptoms.

DR. WILLIAM M. POLK said he found himself taking a position somewhat at variance with that of the gentlemen who had spoken. He considered women more predisposed to maniacal disturbance subsequent to operations than men, especially operations upon the genital organs. It had been his experience that they were more emotional, and all must have observed that certain functions of the genital organs in women were associated with a great many mental disturbances. In fact, if he found that a woman presented any abnormal mental action, he preferred not to operate upon her. He said he had been led to this view of the subject from having had three of these unfortunate cases, each one of which ended fatally. They were cases of pure mania, not of drug poisoning. There were several facts which had been advanced in explanation of the development of mania after operations. One was the use of an anaesthetic, but he thought it had not been proven that the anaesthesia had any tendency to cause mania in other subjects, and why should it, then, in gynecological patients? Some had thought the nervous disturbance due to the exquisite sensitiveness of the perineum in the female, while others thought it due in some way to disturbance of menstruation. He was prepared to admit that a patient who had a long time in which to contemplate the knife might be thrown off her mental balance, but he did not think this would entirely account for the terrible picture shown to-night.

One of his three patients had been subjected to Alexander's operation. The autopsy showed nothing in the brain or at the seat of the operation to account for the mania and death. The second case was one of suprapubic hysterectomy in a patient whose mind was much worked upon by jealousy. There was no sepsis. She had a sister who was a little queer. The third case was in a patient whose mind was decidedly affected when operated upon, and she went on to develop violent mania, requiring the strait-jacket.

DR. W. GILL WYLIE could not say that his personal experience would permit him to give very positive evidence on this subject one way or the other. He certainly was not positive that gynecological operations

caused insanity more than other operations. But there were several things which he thought should be taken into consideration. One of the first was that many gynecological operations were performed upon women who were imperfectly developed, and that imperfect development had its influence in predisposing to mental troubles. Perhaps it was a mere coincidence that those who had an imperfectly developed uterus often had an imperfectly developed brain.

He could say this, that he had operated upon quite a number of women who were insane at the time of the operation. One case was of sufficient interest to relate, being that of a woman who showed insane symptoms after the birth of a child. She was transferred to an asylum, was there six months, and was considered incurable. Her husband brought her to New York, and Dr. Wylie treated her for subinvolution of the uterus and erosion of the cervix. After the treatment of the uterine troubles she recovered and returned home sane. During the menstrual periods, however, she showed slight return of the mental symptoms. She had another child, and somewhat similar insane symptoms developed afterward, but he did not see her for twenty months. On reaching New York she became violently insane. He found disease of the tubes and ovaries and removed them, and the patient returned home much improved mentally.

The only case of acute insanity following any of his operations was in a patient who had had a severe form of epilepsy for some years. Whenever he found any evidence of disease about the genital organs he was perfectly willing to operate upon them. He had formerly thought removal of the tubes and ovaries had a tendency to depress the patient mentally, but later observation had about changed that opinion.

One fact which deserved mention was that all forms of chronic uterine trouble were generally attended by disease of the rectum, if not of both rectum and colon, and he had found that treatment of these latter difficulties went far toward correcting nervous disturbances. He recited one marked case of the kind. He did not wish his remarks to be considered final on this subject, he might in the future change the views which he had expressed to-night.

DR. TOWNSEND, of Albany, related a case seen by him the past winter, one in which he performed salpingo-oöphorectomy on an hydræmic patient. She went along nicely for four days, when the flow commonly following the operation came on, and with it the patient showed marked mental depression. The wound healed by first intention, the bowels moved regularly, the appetite was good, but there was a rapid pulse both before and after the operation. On the evening of the seventh day the patient became hysterical, the next day became melancholic, and in the evening was maniacal, and had to be placed in the strait-jacket. She died in the night in coma, apparently due to exhaustion. He thought the melancholia which first existed might be due to the hydræmia and illy nourished condition of the brain, while the mania might be due to hyperæmia following vasomotor paralysis.

DR. LANDON CARTER GRAY thought that Dr. Thomas deserved the credit of having described a new genus of insanity, having related six cases and referred to twenty others. Of the six, three were of the type of mania, three of the type of melancholia; but not one of the

three of mania was like any of the recognized forms of mania.

There is an idiopathic form of acute mania in which the patient becomes quite violent, but not uncontrollable, and there is an acute form of mania which has been described under the name delirium grave, really in all probability a cerebritis. The cases described by Dr. Thomas were like those of delirium grave. This seemed to show that there was a general underlying condition following the gynecological operation which led to the insanity. In Dr. Thomas's cases the insanity came on a certain period after the operation, which would point to some general symptom appertaining to the disease, as drug poisoning or micro-chemical product in the blood, rather than to reflex action. It seemed to him this belonged to what had been called post-febrile insanity, some cases of which were of mania, some of melancholia. In all the cases heretofore described of post-febrile insanity there had been great lucidity of the delusions throughout, and a good prognosis. But four of Dr. Thomas's cases had died, which would be likely to occur in none of the other forms of insanity mentioned, excepting delirium grave. In the latter, nearly all patients had died. He would call the form of post-febrile insanity, described by Dr. Thomas, not mania or melancholia following gynecological operations, but post-operative insanity, which demarcated it from ordinary post-febrile insanity.

THE PRESIDENT mentioned the case of a patient of his on whom Dr. Lange operated and removed one kidney. She remained perfectly sane up to ten days after the operation, then developed acute mania, remaining insane three weeks, then recovered, and was now in perfect health.

DR. THOMAS, in closing the discussion, said he was exceedingly obliged to the gentlemen for the kindly way in which they had discussed his paper, and he had really but little to say in reply. Regarding iodoform, he felt that the advantages attending its use hardly justified its employment if it was capable of producing such grave results as had been described to-night. While he employed very little of it, and that dusted along the line of the abdominal sutures which closely coapted the edges of the external wound, yet he was not able to deny Dr. Hunter's position that even under those circumstances iodoform might produce poisoning. He had had three or four cases of iodoform poisoning in which the patient was of insane mind a few days, but he had not included them in the paper.

With regard to ether being a factor in these cases, he did not think it possible, for in all his experience with it he had not known it to produce insanity. But, if he were permitted to digress a little from the subject, he would say that he had seen such bad results from ether in the way of prolonged vomiting and general discomfort, that he was strongly inclined to believe we ought to give it up in laparotomies, and try chloroform again, as European surgeons were doing.

Regarding Dr. Nichols's remarks as to the seeming rarity of this accident compared with the number of gynecological operations, Dr. Thomas thought the discussion had shown that it was not very rare, for twelve cases had been narrated during the evening in addition to those mentioned in his paper, and one of the twelve was a case operated upon by him, as stated by Dr.

Nichols, and this was the first time he had heard of it. He had been much impressed by the remark made by Dr. Nichols regarding the influence of long anticipation of the operation. It was on account of such evil influence on the mind of the patient that he advised his students always to remove tumors from the female breast, of whatever size and whatever nature. After removal, the microscope would tell the story. Dr. Townsend's case had interested him very much, as it closely resembled two of his own.

He felt like repeating the questions with which he had closed his paper, and expressed the hope that other cases would be reported as they occurred, and that the subject would be investigated more thoroughly.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Stated Meeting, February 6, 1889.

THE PRESIDENT, D. HAYES AGNEW, M.D.,
IN THE CHAIR.

DR. WHARTON SINKLER communicated the following CASE OF POTT'S DISEASE FROM INJURY, FOLLOWED BY COMPLETE PARAPLEGIA. TREATED SUCCESSFULLY BY SUSPENSION.

John T., aged eighteen, native of Ohio, was admitted to the Orthopaedic Hospital and Infirmary for Nervous Diseases, February 16, 1888. Father and mother both living and healthy. He is the eldest of three children; others are healthy; there is no history of consumption in the family; has never had any of the diseases of childhood; always healthy and strong. In September, 1886, some of his school-fellows "bumped" him against a tree. Acute pain in the spine was produced by this at the time, and afterward, in either sitting or standing, pain was remarked; but when lying on his back he was comparatively easy and free from pain. The pain was first greatest in the epigastrium and radiated thence into the back, down into the legs, and up into the shoulders. About three weeks after the injury, he accidentally discovered a lump in the dorsal region of the spine. Soon after observing this, the lump became very painful and was sensitive to the touch. He continued to sit up and walk, but progressively became weaker, and after the second week in January, 1887, was unable to walk at all. About three months after the injury, he began to lose sensation in the legs; the knees began to get stiff in the spring of 1887. He has been unable to sit up, but was comparatively comfortable in bed.

Condition on admission: Angular curvature at seventh dorsal vertebra; can sit up with the aid of a leather corset which he has worn for some months. He is unable to move the legs at all; knees and ankles generally in a state of rigidity; knee-jerk grossly exaggerated; patellar clonus present; ankle clonus very marked on both sides; toe reflex present (this is very striking on both sides). The condition known as *spinal epilepsy* readily induced; plantar reflex exaggerated; no cremasteric or abdominal reflex can be elicited; sensation is impaired, but is not lost. He can localize and distinguish touch anywhere on legs or feet; no interference with the functions of bladder or rectum. There is no pain in the spine. There is a bedsore the size of a ten-cent piece over the sacrum. The circulation in the legs is poor; the feet are constantly cold. His temperature

is above normal morning and evening; varying from 100° to 102° F. in the evening; in the morning, 99° to 100° F.

He was ordered massage, and the cautery was used on either side of the angular curvature. He was also ordered cod-liver oil and milk-punch. A plaster jacket was applied soon after his admission, but as he fainted before the plaster could set, it had to be removed, and in two days a second jacket was applied. This could only be borne for three or four days, on account of interference with respiration; and it was removed on the second day. A third jacket was applied at the end of another week, and in this he was comfortable. The bedsore, however, continued to increase in size and depth.

On March 18th he was suspended by means of a padded leather chin and occipital piece from a bar of iron projecting over the head of his bed. This was placed high enough above the bed to allow him to sit upright upon the bed. He was able to bear the extension for nearly five minutes on the first day. On each subsequent day the time was extended, until he was able to bear the extension for half an hour twice a day. On April 17th, the plaster jacket having been removed on March 29th, ice and hot water were applied to the spine over the region of the curvature, for ten minutes four times each day—the ice and hot water being applied alternately; first the cold, followed by the heat.

May 14, he was placed in a chair, and extension made from a rod attached to the back of the chair and bent over the head. About this time he began to have slight power of motion of the toes; this was followed by power to flex the feet, and to flex the thighs.

June 25, fluid extract of ergot, twenty drops three times a day, was added to the treatment; and this was continued until July 31st.

July 23, the following note was made: Condition much improved; complains of no pain; can move legs, drawing up the knees lying on his back in bed; sensation is improved, but is not perfect; clonus is less, but still marked; knee-jerk still exaggerated; toe reflex still present. The application of heat and cold to the spine was continued until October 18th.

In August he was able to lift the feet from the floor as he sat on the chair. One of Kolbe's spinal apparatuses was applied on July 31st, and he has continued to wear this when sitting up ever since; it is removed when he is in bed.

In the middle of August he could walk a few steps in the wheel-crutch.

In October he began to walk about with crutches. He has continued progressively gaining strength in the legs, and is now able to walk about at pleasure, but has not yet been allowed to dispense with his crutches, although quite strong enough to do so.

He has gained in weight. There is no tenderness over the curvature, but there is no material change in its shape. The reflexes are all still exaggerated, but to a moderate extent; and the tremor of the legs is no longer excited by moving them vigorously.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, March 21, 1889.

THE PRESIDENT, WILLIAM GARDNER, M.D.,
IN THE CHAIR.

DR. SHEPHERD exhibited a patient on whom he had operated a year ago for the

RADICAL CURE OF HERNIA.

The man, a blacksmith by trade, was forty-five years of age, of intemperate habits and very stout. He had had a swelling in the left groin since boyhood, which always disappeared on lying down. It gradually increased in size and entered the scrotum. It now could only with difficulty be reduced. Two years before had received a severe blow on the scrotum with a bar of iron, from this time the tumor rapidly increased in size and became irreducible. Latterly the tumor has become so large and troublesome that he could not do his work, and with difficulty could wear large-sized trousers. The tumor in the scrotum was larger than a good-sized football. He was sent into hospital and kept in bed sometime. Operation for the radical cure of the hernia was advised, and, the man having consented, the operation was performed on April 26, 1888.

An incision some eight inches long was made over the tumor and the sac reached. The sac was found to be very thin, and was with difficulty partially dissected out. Failing to reduce the hernia, the sac was opened. The sac contained all the large intestines with the exception of the cæcum and sections, and nearly all the small, besides a large mass of omentum. Several pounds of omentum were removed after ligature, and then an endeavor made to return the bowels. This was not easily accomplished, the abdominal cavity appearing too small to contain them. After manipulating the intestines for a considerable time, without making much impression on the quantity outside the abdomen, the man was suspended by the feet. This enabled Dr. Shepherd to reduce the small intestines first, then the large. The whole time occupied was nearly two hours.

It was found that in reducing the large intestines, pushing them in a certain direction failed to diminish the quantity, but as soon as they were pushed in the opposite direction, they slipped in easily. When all the intestines were returned, the abdomen was as tight as a drum, and it seemed as if it would not have been possible to introduce an inch more of bowel. Having taken so much time in reducing the hernia, Dr. Shepherd decided that it was better to sacrifice the testicle of that side, and so complete the operation as soon as possible. The sac was cut off and the ends of the ligature passed through the abdominal walls, as suggested by Mr. Barker, of London, one through each pillar of the internal ring and then tied together; the canal, which, of course, was of large size, was then closed by two silk sutures which were passed through the conjoined tendon and Poupart's ligament, and the external wound closed with continuous silk suture.

The patient was in fairly good condition after the operation and quickly rallied. Next day there was some pain and tympanites. Small doses of salts were given frequently, and the bowels freely moved. The recovery of the patient was uninterrupted and without special incident. He remained in bed some six weeks after operation, when he was discharged with a sinus still unhealed at the point of drainage. After a few weeks more he returned to his work, at which he has been constantly engaged ever since. There has not been the slightest return of the hernia, but the fistulous opening has never completely closed, and some few days ago Dr. Shepherd removed one of the silk sutures from it.

Dr. Shepherd stated that he brought this case before the Society because of the special interest taken at the present time in this subject. The operation performed was a formidable one, and relieved the man from a very disagreeable tumor which had seemingly interfered with his occupation. The sacrifice of the testicle he did not regret, as he was convinced that in these large herniæ cure could be more readily accomplished if the spermatic cord were cut; the stump helped to close the internal opening. The fistulous opening, he thought, was no doubt due to the silk sutures; one had already come away, and when the other was discharged he had no doubt the fistula would heal.

DR. SUTHERLAND exhibited a patient on whom he had performed

LIGATURE OF THE COMMON CAROTID FOR ARTERIO-
VENOUS ANEURISM.

The patient, a girl, aged twenty-four, was brought to the General Hospital on September 3, 1888, having been accidentally shot in the neck by an ordinary parlor rifle carrying a bullet the size of a pea. The bullet entered the neck midway between the symphysis and angle of the lower jaw on the left side, passed across the neck and was found under the skin two inches below the right mastoid process behind the sterno-mastoid. The right side of the neck was swollen and a distinct pulsation and thrill were felt in placing the hand over the upper carotid triangle. With the stethoscope a distinct bruit could be heard. The thrill and pulsation of the tumor gave one the idea that the affection was an arterio-venous aneurism. The pulsation was arrested by compressing the common carotid in the neck. The patient was kept quiet for a few days, and the tumor and pulsations increasing it was decided to throw a ligature around the right common carotid and then search for the wounded vessel. This was done, but failing to find the vessel, which appeared to be deep (probably the internal carotid), Dr. Sutherland determined temporarily to occlude the carotid by ligating it over a piece of drainage tube after the manner suggested by Mr. Treves, of London, and await results.

The patient did well for several days, but the ligature loosening, the pulsation in the aneurism returned, so the patient was again placed under ether and the carotid was tightened in its continuity above the omohyoid. The patient did well, the wound healing by first intention except at the point where the bone drain had been. After three weeks she was discharged from hospital with the swelling in her neck much decreased and with the aneurism cured. The fistulous opening remained until January 12th, when the ligature came away and then the opening rapidly closed.

The patient is at present perfectly well. Dr. Sutherland stated that with regard to the tying of the ligature over the rubber tube outside, it was a practice he would not repeat. Although it had the advantage of accustoming the brain to a lessened supply of blood, yet he considered that the retarded flow of blood in the main vessel might lead to a thrombus being formed in some of its anastomotic branches and so interfere afterward with the nutrition of the part. He preferred ligature of the carotid to temporary compression, as the former was much more certain and not more dangerous.

ESBACH'S METHOD OF DETERMINING PROTEIDS IN THE URINE.

DR. RUTTAN exhibited and explained Esbach's method of determining proteids in urine, and showed how it might easily be applied to ascertain the relative proportion of serum-albumin and serum-globulin in urine. He expressed surprise that this method, though over two years old, was not used more by physicians, as it was extremely easy of application and occupied little or no time. It was time that the unscientific and misleading statements which appear in the journals, regarding the qualitative relation of albumin in urine, were replaced by more accurate and reliable observations. Such statements as thirty or forty per cent. by volume of albumin conveyed no information whatever, as to the actual quantity of proteids, nor even of the relative proportion from one observation to the next.

Dr. Ruttan said that it was obvious that the volume of precipitated albumin depended on whether precipitated in flakes or in granules, and this again depends on the time it is boiled and the amount and nature of acid used; again, the specific gravity of the urine, the time elapsing before the observation is made, etc., all should be constant and should be stated, before it is possible by the old method to convey even an approximate idea of the actual amount of albumin in the sample of urine. Esbach's method, though not absolutely accurate, is more nearly so than any other clinical method and has the advantage of giving the actual proportion of albumin by weight in any given sample of urine. Dr. Ruttan also referred to Dr. Grainger Stewart's observations on the significance of the relative proportion of serum albumin and globulin in urine. These observations, though few in number, go to show that the globulin, if in excess or present alone, is significant of functional albuminuria.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of March 5, 1889.

THE PRESIDENT, GEORGE W. JACOBY, M.D.,
IN THE CHAIR.

DR. CHARLES L. DANA reported two cases of

FOCAL LESIONS OF THE TEMPORO-SPHENOIDAL LOBE, WITH SYMPTOMS OF FORCED MOVEMENTS.

The first was a case of abscess of the right temporal lobe occurring in a woman of thirty-two years. It resulted from a fall on the head and developed slowly in the course of two years. The notable symptom, aside from headache and a hysterical mental state, was sudden forced movements causing the patient to fall back and to the right. She was continually falling out of bed on the right side, and would sometimes perform *manege* movements. She died suddenly. Autopsy showed an old circumscribed abscess of the third and fourth right temporal convolutions with a recent hemorrhage into the cavity, bursting into the lateral ventricle.

The second case was one of focal meningo-encephalitis causing deep and extensive softening of the second and

third right temporal convolutions. The patient, a man of forty, was brought into the hospital in a condition of delirium. A history was obtained of an apoplectic stroke one year before. Since then he had had frequent attacks of dizziness and muscular twitchings during which he would fall always forward and to the right.

A third case of abscess of the right temporal lobe, recently reported in the *Provincial Medical Journal*, was cited, in which the patient frequently staggered to the right.

Physiologists found a number of parts of the brain, irritation of which caused forced movements—*e. g.*, the cortex cerebri, the basal ganglia, the cerebellar peduncles, etc. Pathologists had found in cases of forced movements, lesions chiefly in the cerebellar peduncle, especially the middle; but there were a few observations showing such disturbances from lesions of the parietal lobes. It was suggested that the temporal lobes contained representation of our sense of space and appreciation of changes in bodily position. It might be that the right lobe was especially concerned. There was some *a priori* probability that the vestibular or space-sense root of the eighth nerve and the cochlear or auditory root were connected with neighboring areas in the brain cortex. Anatomically it was known also that the temporo-occipital lobe was connected by a bundle of fibres with the pons nuclei and the cerebellum.

DR. GRAY said it was true that the auditory nerve subserved the senses of hearing and space, and it was quite true that deaf-mutes are never sea-sick, yet lesions of the temporal lobe thus far have produced only word-deafness. These were lesions of the first and second convolutions. We now know that the auditory nerve has connections with the cerebellum. Such profound disturbances as existed in Dr. Dana's cases are generally due to disease of the cerebellar peduncles or semicircular canals. Autopsies seem to have excluded cerebellar lesion, but no mention was made of any examination of the internal ear to see if the canals were normal. He referred to a case of his own with lesion of the temporal lobe with neither word-deafness nor loss of equilibrium. If Mr. Dana's conclusions were correct he had opened up a new field in brain pathology.

DR. FISHER described some of his recent experiments on dogs. Injury to the parietal or temporal lobes he had found to cause rotation to the side of the lesion quite as much as if the cerebellum were involved. These movements would last for several days. His researches therefore in an experimental direction would tend to corroborate Dr. Dana's clinical deductions. His operations were excision of the cortex in places, with more or less laceration.

DR. SACHS thought the most important fact that Dr. Dana had sought to establish was the termination of the vestibular branch of the nerve in the fourth and fifth temporal convolutions, whereas other authors had located all auditory terminations within the first and second temporal convolutions.

DR. DANA, in closing, stated that he had made a gross examination of the internal ear, but had found no sign of inflammatory change. The cortical area for the cochlear branch would remain the same, but the district for the vestibular branch he believed to lie lower down in the temporal lobe.

CORRESPONDENCE.

THE TREATMENT OF SPASMODIC CROUP.

To the Editor of THE MEDICAL NEWS,

SIR: In perusing the very interesting article by Dr. Arthur V. Meigs, in your issue of March 23d, upon the subject of the "Treatment of Spasmodic Croup with Opium," it occurs to me to submit to you and your readers my own view of the treatment of this ubiquitous affection. I esteem the emetic as an indispensable introduction to the treatment of *all* cases. Almost invariably the last meal taken is found to be cast up undigested, and oftentimes food that has been taken twelve hours or more before the administration of the emetic. I regard this condition of the stomach as bearing a causative relation, by reflex action, to the laryngismus, and hence administer the emetic *at once*, whether or no the dyspnoea be urgent. Ipecac, I think, is the best emetic for this purpose. It is reliable and mild in its action. When emesis has ceased, I give from two to four grains of quinine, and as large a dose of the *fluid extract of gelsemium* as the age of the child will justify, generally from five to ten drops. The following morning I have the patient take a dose of castor-oil to open the bowels freely, and continue small doses of the gelsemium throughout the day—two drops every two hours. Another full dose of gelsemium and quinine on the second night at bedtime will be effectual in preventing any further paroxysm.

I find imperfect bowel action so commonly preceding these cases, and digestive incompetence or perversion accompanying them, that complete evacuation of the *primæ viæ* seems to me always to be rationally indicated. The administration of opium, as recommended by Dr. Meigs, may subdue the laryngismus by reducing the perceptive power of the nerve centres to morbid irritation, but at the same time the overloaded alimentary canal is rendered *more* inactive, and the digestive disturbance is ignored. These conditions of functional inactivity and perversion are my main points of attack. I regard the laryngismus as their reflex expression or effect upon the sensitive nervous system of the child, and find gelsemium and quinine adequate to allay it.

Yours truly,

J. P. REYNOLDS.

1449 N. THIRTEENTH STREET, PHILADA.,
March 30, 1889.

A BONY FALX CEREBRI.

To the Editor of THE MEDICAL NEWS,

SIR: In perusing THE NEWS of March 23, 1889, I noticed the report of a very interesting case by Dr. Sneve of an osseous growth in the falx cerebri; which reminds me of, and causes me to report in brief, a similar and more interesting case, also one of acute ulcerative endocarditis, which came under my observation very recently.

CASE I.—A negro, aged forty years, weight about one hundred and thirty pounds, not emaciated, a laborer, of temperate habits, came into the City Hospital, February 12, 1889, suffering from rheumatism of syphilitic origin as determined from the history of the case, cicatrices on glans penis, and enlargement of the epitrochlear and post-cervical lymphatic glands; pulse 120, temperature 101° F., complained of pain in left side and severe headache; he would lie on his back, eyes widely opened and pupils dilated, and head very much extended—his tongue

was coated with a white fur. He was put on 10 gr. doses of iodide of potassium, three times a day; on the second day he manifested spasmodic action of the voluntary muscles, and on the third day he had decided convulsions at short intervals, and on the eve of the third day had stertorous breathing, frequent convulsions, coma and death.

Necropsy: Bones of cranium very thick—dura mater not adherent to the calvarium; the anterior two-thirds of the falx cerebri was ossified and thickened, the plate of bone resembling a scythe-blade, about four inches in length, one inch wide and one-half inch thick at the anterior extremity, and one-half inch wide and one-quarter inch thick at the posterior extremity; the superior border was thin and attached to the cerebral meninges, and the inferior border thin and free in the longitudinal fissure. The surfaces of this plate of bone were rough, presenting elevations and depressions and covered by a very thin layer of modified dura mater. The pia mater seemed thickened by an increase of new cells, or hyperplasia, and was closely adherent to the surface of the cerebrum, which was very hyperæmic and ill-developed; the third and lateral ventricles were partly filled with an amber-colored fluid. Liver and lungs very much congested; the spleen seemed smaller than normal—no microscopical examination of any of the parenchymatous organs was made. I ascribe the death of this man to syphilitic hyperplasia of the pia mater and not to the pressure of this bony falx.

CASE II.—A negro, aged thirty-seven, average stature, a laborer, entered the Hospital, suffering from dyspnoea; his extremities and eyelids were œdematous; appetite good; pulse slow, forty per minute—full and compressible; no bruit could be heard on auscultation; temperature, 101° F. He was put on tr. digitalis, tr. iron, and phosphoric acid (dilute), and on the evening of the first day had a marked chill with rigors, followed by temperature of 104¼° F.; on the morning of the second day he became delirious—urine was suppressed for thirty-six hours, the last passed contained no albumin or sugar; on the evening of the second day he became comatose and died.

Autopsy: Brain normal; liver and lungs very much congested; kidneys small and seemed contracted, but on section the medullary and cortical portions seemed normal to the naked eye—no microscopical examination was made; spleen considerably congested and pressed upon the superior surface of the left kidney and produced a marked flattening of that portion of the gland. The heart was dilated and hypertrophied; the endocardium and valve on the right side presented no signs of disease, but the endocardium of the superior and posterior portion of the right auricle presented an ulcer, circular in shape, and about one-half an inch in diameter; my finger was easily thrust through the auricular wall at this point. Beside this ulcer there were two other smaller ones near the left side of the auricle—the endocardium of the left ventricle showed no signs of disease; the ulcerative tissues were not examined microscopically for bacteria, nor was the blood.

Finding no other lesions than the above named, sufficient to cause death, and recalling the chills, rapid sinking, and these ulcers on the endocardium, I concluded that the patient died of acute ulcerative endocarditis, occurring not as a secondary disease to some other infectious one, but as a primary disease.

W. R. JACKSON, M.D.,
City Hospital, Mobile, Ala.

March 23, 1889.

SUPERNUMERARY DIGITS.

To the Editor of THE MEDICAL NEWS,

SIR: In THE MEDICAL NEWS of March 16, 1889, Dr. W. A. De Wolf Smith, of New Westminster, B.C., reports a case of supernumerary digits in which the variation seems to have originated with the female. He reports this case "in the hope that it may give some assistance in clearing up the question raised by Dr. T. Wesley Mills, in *The Canada Medical and Surgical Journal*, for May 1887." Prof. Mills there states that, according to Prof. Brooks, variations originate with the male, but himself gives a case which is, at least, an exception to the rule, and, as he says, is much against the theory. I beg leave to report the following cases of supernumerary digits which go further to prove that Prof. Brooks' theory does not always hold good.

CASE I.—In the spring of 1888 I was called to see a female negro baby, three weeks old, which had on either hand, opposite the metacarpo-phalangeal articulation, a supplementary finger attached by a pedicle of flesh and skin. The second and third phalanges and the nails of these *extra* fingers were fairly well developed. I removed, with a pair of blunt-pointed scissors, these appendages without any trouble. The parents of this child, who knew the histories of their families as far back as the grandparents, told me that there had been no other case of the kind in either family.

CASE II.—I had a friend who at birth had on each hand six fingers, and on each foot six toes. The supernumerary fingers were removed, but the toes were allowed to remain. These supplementary toes were thoroughly developed, having each a nail, three phalanges, a metatarsal bone and perfect articulations. He was the only member of his family, the history of which both on the paternal and the maternal side, was well known as far back as the grandparents, who had either supernumerary fingers or supernumerary toes. He had five sons, all of whom had normal hands and feet. In fact, he was the only member of this entire family who had an abnormality of any kind.

WILLIAM F. DREWRY, M.D.,

CENTRAL LUNATIC ASYLUM, PETERSBURG, VA.

AUTOMATIC AMBULATION.

IN THE NEWS of March 23d, a letter on the above subject was printed, from Dr. F. Donaldson, Jr., describing intelligibly that remarkable case of M. Charcot. A recent issue of the *London Medical Press* treats of this case and enters a caution that is worthy of quotation: "Extraordinary as it may seem, we have not to go far to find in ourselves the parallel [of this muscular automatism] for under the influence of a dominating train of thought, or strong emotion, perception is practically suspended, although there may be no outward evidence of its temporary abrogation. One is justified in preserving a certain scepticism in these matters short of scientific demonstration, as otherwise one might involuntarily connive at the spread of a pseudo-malady to which Parisian *changeurs* seem peculiarly subject, the principal symptom of which is a liability to take the train to Belgium without being conscious of the risk that their sudden disappearance, with the funds intrusted to their care, may be misinterpreted. Automations of this kind are likely

to prove very troublesome members of society, and unless they are enabled to foretell the advent of the attacks by the aura, it would be well to place them *volens volens* under a suitable restraint."

The above admonition can, without much straining, be adapted to this country and climate by substituting Canada for Belgium and "boodlers" for the Parisian defaulters of whom the editor writes. It can hardly be expected that every automatic ambulator will fall into the hands of so keen an observer as Charcot and from him receive a certificate as a measure of safe-conduct, but it is desirable, at least, that whenever they may be discovered that each case of the kind shall be refused passport and, if practicable, be labelled "not to go out of the country," pending a thorough medical examination. W.

VERMONT AND SOUTH CAROLINA IN 1827.

To the Editor of THE MEDICAL NEWS,

SIR: I chanced this morning to take down a bound volume of pamphlets, pertaining to medical education, from one of which I wish to quote briefly. It is a tract of twelve pages, called "Proceedings of a Convention of Medical Delegates held at Northampton, in the State of Massachusetts, on the 20th day of June, 1827." The convention was the result of an effort on the part of the State Medical Society of Vermont to improve the status of medical education in the northern States; it laid the foundation of "an Association of Medical Societies and Institutions;" it made a code of rules calling for a high standard of qualifications; it was, in essence, a premature budding of the American Medical Association, limited to the north-eastern States—inclusive of New York—because of the then limited means of transportation; the American Medical Association came into being about nine years later, at a time when great relative improvements in travel had been acquired. I quote:

"It would have been highly gratifying if this convention could have been composed of delegates from all the States in the Union. But the blessings of our extended territory are not without inconveniences. It would seem nearly impossible that persons from such distances should be brought together with any convenience and continue in session long enough to consider all the local customs and circumstances which ought to influence the regulations to be adopted in such a case; nor would it be easy in any way to reconcile all the different habits and practices of the people of such distant territories as those which are occupied by our nation. Meanwhile we doubt not that the zeal in the cause of medical education is as great in the other States of the Union as in those which we represent. The Medical Institution of Charleston, S. C., has very honorably manifested its desire to elevate the profession in the only proper way, by making it more learned and more useful."

Among the eleven names of delegates who sign the report appear those of some of the veterans in the New England schools, such as R. D. Mussey, James Jackson, H. H. Childs, and Usher Parsons.

Thus it will be seen that while Vermont takes the initiative in the good cause in the north-eastern States, she is not able to steal the march on the "institutions" of the South; this word *institutions* was then used throughout New England in regard to colleges of medicine, and had no reference to associations or societies. No State other than South Carolina is mentioned by

name, in this report of proceedings, as being in earnest for the advancement of medical education; it unfortunately omits to specify what particular action, taken by the South Carolinian College, it was that won for the latter this honorable mention.

The convention ordered the printing of an edition of five thousand copies of these *Proceedings*. This was done at Boston, in 1827, under the eye of a committee of which Drs. Warren and Jackson were members. This pamphlet is sufficiently rare to have escaped inclusion in the Library of the Surgeon-General—at least, the volumes of the *Index-Catalogue*, at my command, have not yielded it to my search. Yours, with respect,

ALBEMARLE.

OBITUARY.

ROBERT PALMER HOWARD, M.D.

DR. ROBERT PALMER HOWARD, Prof. of Medicine and Dean of the Medical Faculty in McGill University, whose death was noticed in our last issue, was born in Montreal, January 12, 1823. He graduated in medicine at Montreal in 1848, and then studied in Dublin, London, Edinburgh, and Paris. In Dublin, he had the advantage of a prolonged course of instruction under Drs. Graves and Stokes, from whom he probably acquired that enthusiasm in the study of clinical medicine which distinguished him throughout his long career. He returned to Montreal in the latter part of 1849, and at once entered upon practice. In the early part of his career he was, for several years, connected with the St. Lawrence School of Medicine, an institution which had but a short existence. In 1852, he became one of the Demonstrators of Anatomy; in 1854, Prof. of Medical Jurisprudence; in 1856, Prof. of Clinical Medicine; in 1860, Prof. of Medicine in the University.

In 1882, on the death of Dr. Campbell, he became Dean of the Medical Faculty. For twenty-four years he was physician to the Montreal General Hospital, and served as Secretary to the Corporation. He held very many positions of honor and trust in the profession and in the community. For nearly thirty years he was one of the Governors of the College of Physicians and Surgeons of the Province of Quebec, and had been President of the same. He was President of the Canada Medical Association and of the Medico-Chirurgical Society of Montreal.

His contributions to medical literature were very numerous, and are to be found, chiefly, in the *British-American Journal*, in the *Montreal Medical Chronicle*, in the *Canada Medical and Surgical Journal*, and in *The American Journal of the Medical Sciences*. His writings upon phthisis have been numerous and valuable, and he was among those who upheld the unity of this disease at a time when Niemeyer's views were universally prevalent. His paper upon pernicious anæmia, read before the International Medical Congress at Philadelphia in 1876, was one of the earliest and most valuable contributions on this subject. His latest communications were upon hepatic cirrhosis in children and ophthalmoplegia externa.

As a teacher of medicine for thirty-three years, Dr. Howard enjoyed a unique reputation in his own country.

To him was due, in great part, the development of that admirable and systematic plan of clinical instruction which has prevailed for so long in the Montreal General Hospital. Painstaking, logical, systematic, thoroughly versed in morbid anatomy, he was not only a model instructor, but he had that earnestness which at once commands the respect of, and affords the greatest stimulus to, the student. His work in connection with the development of higher medical education in Canada was consistent and progressive. For years he labored to introduce into the Dominion a medical bill which should require a minimum standard for practitioners in all the Provinces. This was found to be impracticable, and, of late years, his energies have been directed to the strengthening and advancement of the Medical Board of the Province of Quebec.

His fatal illness overtook him in the full tide of professional and college work. On Saturday evening, March 16th, he was taken with a heavy chill consequent upon exposure; on Tuesday, the 19th, signs of pneumonia developed, which increased rapidly and proved fatal on Thursday morning, March 28th.

NEWS ITEMS.

An International Congress of Therapeutics and Materia Medica will be held at Paris from August 1 to 5, 1889, in the hall of the Sociétés savantes, No. 28, Rue Serpente. All physicians, pharmacists and veterinary surgeons, sending in their names and paying the assessment of ten francs (two dollars) will be permitted to take part. The Congress will be divided into two sections: one on therapeutics and the other on materia medica.

The committee of organization is composed as follows: Drs. Moutard-Martin, president; Dujardin-Beaumetz, vice-president; Constantine Paul, secretary-general; P. G. Bardet, assistant secretary-general; Labbé, secretary of the section of therapeutics; R. Blondel, secretary of the section of materia medica.

The following subjects will be discussed:

1. The antithermic analysis. M. Dujardin-Beaumetz, reporter.
2. The antiseptics proper for each species of pathogenic microbe. M. Constantin Paul, reporter.
3. Heart tonics. M. Bucquoy, reporter.
4. The new drugs of vegetable origin recently introduced in therapeutics. M. Planchon, reporter.
5. Unification of weights and measures used in formulas; the advantages of an international pharmacopœia. M. Shaer, of Zurich, reporter.

An exhibition of drugs will be held during the session of the Congress in the same building and under the direction of Drs. Adrian and Blondel.

All communications should be addressed to Dr. Bardet, Assistant Secretary-General of the Committee of Organization, No. 119 bis, Rue Notre-Dame-des-Champs, Paris, France.

The Royal Victoria Hospital, Montreal.—The drawings for the new Royal Victoria Hospital, Montreal, Canada, have been received from London. The central, or main, building consists of four blocks, the front one, on either side of the entrance hall, being devoted to the nurses' apartments, and those of the lady superintendent and matron, together with the general offices. The block

behind this consists of a building, the shape of a Latin cross, devoted to the clinical department, with a separate entrance for the students. Behind this again are two other blocks, containing three theatres and the mortuary, and at the rear of these, but perfectly isolated from them, is the ice house. The wing on the left hand, or western side, consists of three blocks, each four stories high, with, between them, small buildings containing the staircases, each ward communicating therewith by means of covered galleries. The accommodation to be provided is—surgical patients, about 90 beds; medical patients, about 180; private paying patients, about 20; total, 290 beds. Infectious hospital, about 35; total, 348.

At the rear of the buildings is the infectious hospital, conducted upon the hut system. The whole building will cost about half a million dollars.—*Boston Med. and Surg. Journal*, April 4, 1889.

The Operating-room at the Hotel Dieu, in Lyons.—The new operating-room at the Hôtel Dieu, in Lyons, which has recently been opened for use, would appear from a lecture delivered by Prof. A. Poncet, who has charge of the teaching in operative surgery, to be one of the most completely aseptic operating-rooms to be found. M. Poncet has had it constructed according to designs of his own, elaborated after a visit to many of the hospitals in England, France, Germany, Austria, and Switzerland.

The two objects he set before himself were the prevention of infection by means of air or through contact. It is about thirty feet in length by twenty feet in breadth, the height being about twenty-four feet. As its situation beneath the wards rendered a skylight impossible, the light is admitted by one immense window, the eight panes of which are made to open. Artificial light, when required, is obtained from a Wenham gas-lamp, which can be lowered to within about seven feet of the ground. The walls are covered to the height of five feet with glass, forming a dado; above that with perfectly smooth stucco of a rose-gray tint. All the angles are rounded. To the walls are fixed nickelled brackets supporting shelves of plate glass, which, however, do not come within half an inch of the wall; on these shelves stand vessels containing antiseptic solutions, and ingeniously constructed metal receptacles for dressings. The ceiling is in the form of a dome, and the floor, which is of cement, slopes slightly to an aperture in the centre leading to a carefully constructed drain. The surface is channelled, and is washed down daily, also once a week with carbolic water.

The few chairs and benches are made of bronzed iron; the tables are made with glass tops and metal frames, and are provided with casters. The operating-table is entirely free from the complicated mechanism frequently seen, and the top, which is of glass, is, like the floor, made to slope toward the centre, where there is an aperture communicating with a drainage-tube. The mattress is covered with mackintosh, and is perforated so as to allow of drainage. When the patient requires to be propped up, pillows and cushions covered with mackintosh are used, to the entire exclusion of mechanism. Ingenious arrangements are made for the reception of the anæsthetist's and the surgeon's appliances, and a second table is provided for operations requiring the operator to stand between the patient's thighs.

The instruments, whose handles are specially made

with a view to prevent any difficulty in cleaning, are all washed in glycerine at the temperature of 120° C., and then kept in carbolic solution.—*Lancet*, March 23, 1889.

In Memoriam.—At a meeting of the Medical Staff of the Philadelphia Hospital, held April 1, 1889, the following was adopted:

WHEREAS another vacancy on our Staff has been created by death;

Resolved: That by the death of DR. EDWARD T. BRUEN, who was an indefatigable worker, a clear thinker, and an able writer, the interests of scientific medicine have suffered severe loss.

Resolved: That while this loss will be felt by every medical practitioner, it is but slight compared with that experienced by numerous personal friends, to whom he had endeared himself by many amiable qualities.

Resolved: That the sincerest sympathy of the Staff of this hospital be tendered to the family of their late colleague.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 2 TO APRIL 8, 1889.

ALDEN, CHARLES H., *Lieutenant-Colonel and Surgeon* (U. S. Army).—Detailed as a member of the Army Medical Board, to meet in New York City, May 1, 1889.—Par. 5, S. O. 74, A. G. O., March 30, 1889.

MC ELDERNEY, HENRY, *Major and Surgeon* (U. S. Army).—Detailed as a member of the Army Medical Board, to meet in New York City, May 1, 1889.—Par. 5, S. O. 74, A. G. O., March 30, 1889.

MATTHEWS, WASHINGTON, *Captain and Assistant Surgeon* (U. S. Army).—Detailed as a member of the Army Medical Board, to meet in New York City, May 1, 1889.—Par. 5, S. O. 74, A. G. O., March 30, 1889.

MERRILL, JAMES C., *Captain and Assistant Surgeon* (U. S. Army).—Detailed as a member of the Army Medical Board, to meet in New York City, May 1, 1889.—Par. 5, S. O. 74, A. G. O., March 30, 1889.

By direction of the Secretary of War, JOSEPH R. GIBSON, *Major and Surgeon*, is relieved from duty at Fort Lyon, Colorado, and ordered to Fort Sheridan, Illinois.—Par. 11, S. O. 77, A. G. O., Washington, April 3, 1889.

By direction of the Secretary of War, A. H. APPEL, *Captain and Assistant Surgeon*, is relieved from duty at Fort Sheridan, Illinois, and ordered to duty at Fort D. A. Russell, Wyoming Territory.—Par. 11, S. O. 77, A. G. O., Washington, April 3, 1889.

By direction of the Secretary of War, GEORGE H. TORNEY, *Captain and Assistant Surgeon*, is relieved from duty at Fort Monroe, Virginia, and ordered for duty to Fort Brown, Texas.—Par. 11, S. O. 77, A. G. O., Washington, April 3, 1889.

By direction of the Secretary of War, SAMUEL Q. ROBINSON, *Captain and Assistant Surgeon*, is relieved from duty at Fort Brown, Texas, and ordered to Fort Hamilton, New York, for duty.—Par. 11, S. O. 77, A. G. O., Washington, April 3, 1889.

By direction of the Secretary of War, leave of absence for six months is granted to CHARLES S. BLACK, *Captain and Assistant Surgeon*, to take effect after the arrival of Acting Assistant Surgeon Robert P. Finley at Fort Sidney, Nebraska.—Par. 14, S. O. 18, A. G. O., Washington, April 4, 1889.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF THE MEDICAL CORPS OF THE U. S. NAVY, FOR THE WEEK ENDING APRIL 6, 1889.

MARSTELLER, E. H., *Passed Assistant Surgeon*.—Ordered to the U. S. "Adams."

STITT, E. H. (of South Carolina).—Commissioned Assistant Surgeon, U. S. Navy.

GATES, M. F. (of Pennsylvania).—Commissioned Assistant Surgeon, U. S. Navy.

BOYD, J. C., *Surgeon*.—Detached from the Bureau of Medicine and Surgery, Navy Department, and ordered to the "Yorktown."

GATES, M. F., *Assistant Surgeon*.—Ordered to the Navy Yard, Philadelphia.